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Gravity Survey along the Lines of Precise Levels throughout Japan by Means of a WORDEN Gravimeter

Part VIII. Kantô District.

June, 1956

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Gravity Survey along the Lines of Precise Levels throughout Japan by Means of a WORDEN Gravimeter.

Part VIII. Kantô District.

By Chuji TSUBOI, Akira JITSUKAWA and Hirokazu TAJIMA,
Earthquake Research Institute.

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1. Introduction

Since the spring of 1951, the writers have been engaged in an extensive gravimeter survey along the entire length of the lines of precise levels throughout Japan by means of a WORDEN gravimeter. The net work of the lines of precise levels belonging to the Geographical Survey Institute covers the whole country densely as was shown in Fig. 1 of Part I, and it reaches approximately 20,000 km. in total length. The bench marks are laid at an average interval of 2 km. measured along these level lines. In the present survey, the gravity values have been determined at every other one of these bench marks, that is at intervals of 4 km. The results of the gravimeter measurements that were obtained in the Shikoku, Chûgoku, Kinki, Chûbu and Tôhoku Districts were already published as Parts, I, II, III, V, VI, and VII of these serial reports (TSUBOI et al.: 1953, 1954, 1955, 1956). The present report is the eighth in the series and is particularly concerned with the results obtained in the Kantô District (TSUBOI et al.: 1954).

2. Lines of Precise Levels in the Kantô District

The Kantô District occupies the southeastern part of Honshû, the main island of Japan as shown in Fig. 1. The District is roughly a square in shape with its sides 150 km. in length. It is approximately 32,200 km^2. in area. Fig. 1 also shows the topography of the District.

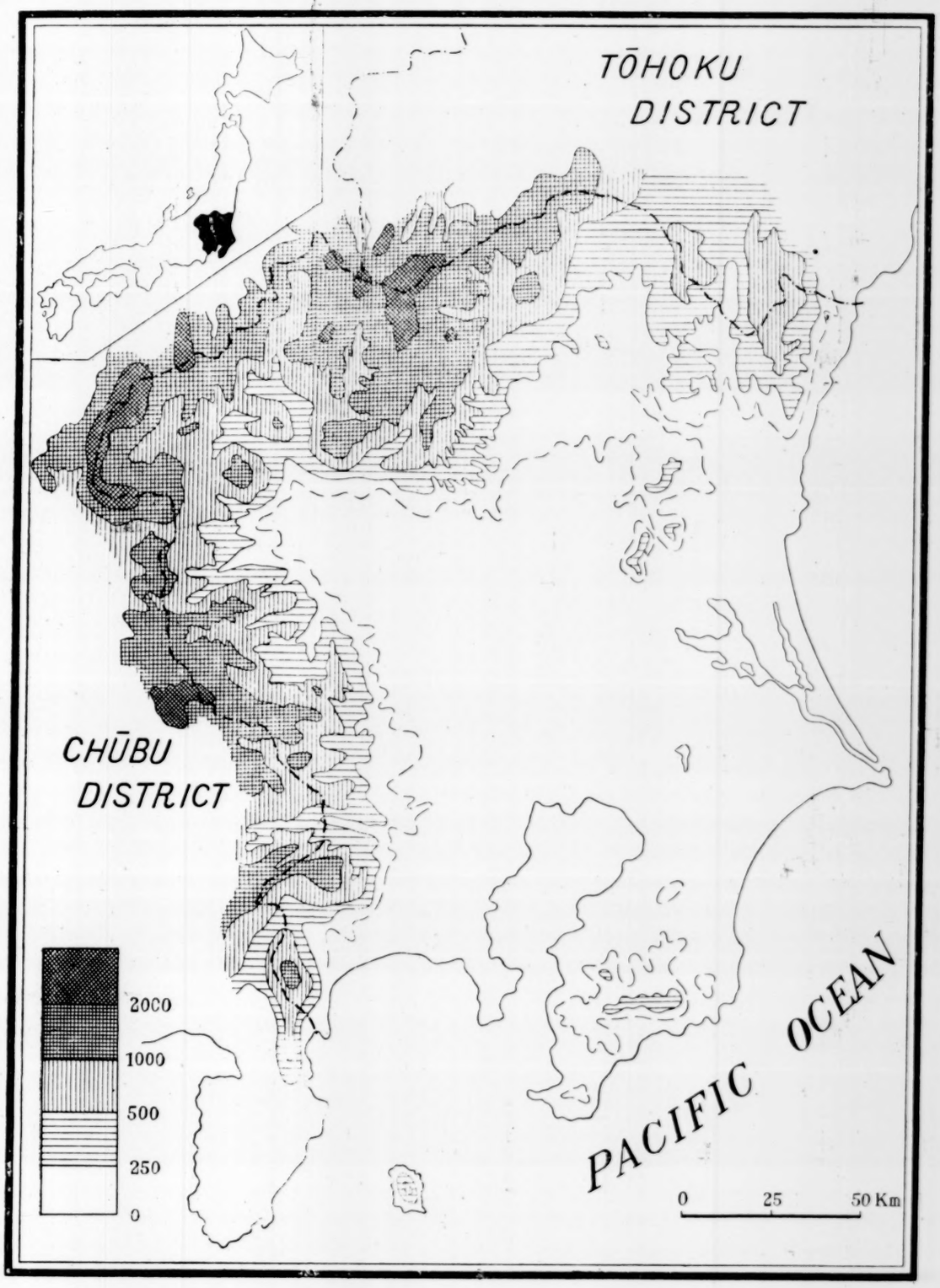

Fig. 1. Topographical Map of the Kantô District. (Height in m.)

Topographically, the District may be regarded as a large basin surrounded by mountains on all its sides except towards the east as can be seen from the map in Fig. 1. The low land which occupies the central part of the District is covered by Pleistocene and Recent geological formations and is the largest plain in the country.

The Kantô District comprises seven administrative prefectures, viz., (7) Ibaraki, (8) Tochigi, (9) Gumma, (10) Saitama, (11) Chiba, (12) Tôkyo and (13) Kanagawa. The net works of the lines of precise levels in this District, along which the gravity values were measured, are shown in Fig. 2 together with the prefecture boundaries. The lines are altogether about 1,500 km. in length, and at 366 points along them, the gravity values were determined. In this number are also included several identifiable points, such as local weather stations, of which the heights are known with sufficiently high accuracy for the purpose of our gravity reductions. The number of points at which the gravity values were determined in each of the seven prefectures is given in Table I.

Table I.
Number of Gravimeter Stations

	Prefecture	Number
(7)	Ibaraki	52
(8)	Tochigi	60
(9)	Gumma	41
(10)	Saitama	40
(11)	Chiba	112
(12)	Tokyo	17
(13)	Kanagawa	44
	Total	366

The gravimeter survey in this District was made in various periods, namely, in January, February, March and July, 1952, and in February, March, April, July and October, 1953.

3. Methods of Measurements and Reductions

Since the methods of measurements and reductions are the same as those already stated in previous reports, no repeated description will be necessary, nor further comments need be added. The one important thing which must be mentioned is that no attempt has been made here, as in the previous reports, to adjust the measured gravity values by simultaneous net calculations. Actually, the whole length of the lines of measurements is a connected chain consisting of a number of small gravimetric loops, for each of which the drift rate of the gravimeter spring was determined severally. These small loops are numbered as illustrated in Fig. 2. After the relative gravity values at the sites of bench marks situated along each one of the loops were determined separately, the results were merely connected in succession. This procedure is admittedly

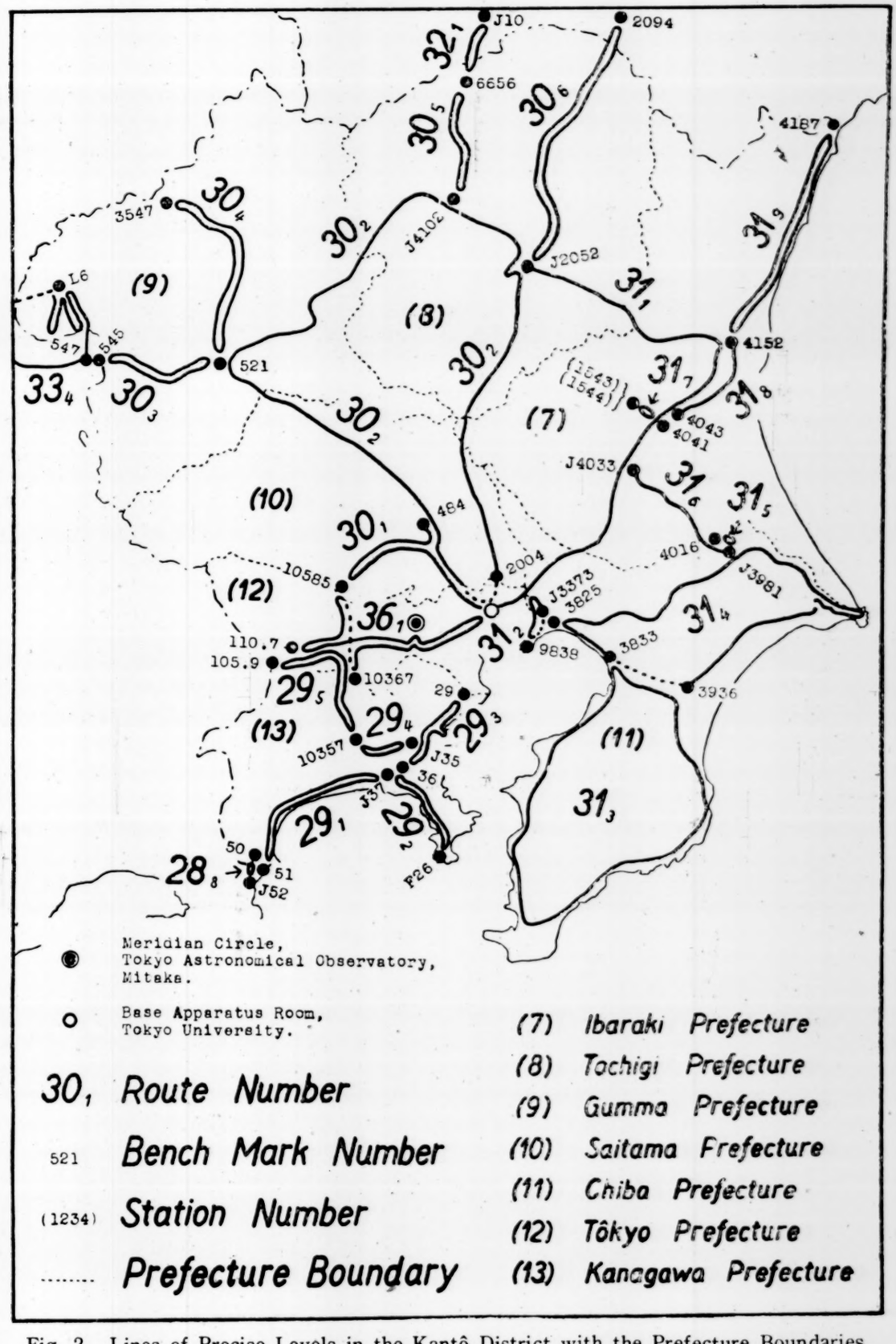

Fig. 2. Lines of Precise Levels in the Kantô District with the Prefecture Boundaries.

not a kind from which very accurate results can be expected, but unavoidable circumstances regarding transportation facilities on the one hand and the rather hasty demand for getting a picture of the distribution of the gravity anomalies on the other, have made us adopt this procedure as the second best. Although we do not claim that the results given in this report are of the highest attainable accuracy, it is not likely that any difference in the procedure of reduction will alter sensibly the final results. It is of course our wish to make a simultaneous net adjustment when the survey over the whole country is completely finished.

Our WORDEN gravimeter has been working with admirable perfection only the rate of drift of the gravimeter spring differed notably from one loop to another. It will be interesting to compare the rate for each of the loops given in Table II.

Table II. Apparent Rate of Drift of the Gravimeter Spring for Various Loops.

Route	Residual (0.01 mgal.)	Time (hour)	R (mgal./hour)
28_8	− 4	0.9	−0.0444
29_1	17	13.6	0.0125
29_2	27	6.3	0.0429
29_3	35	4.5	0.0778
29_4	33	3.2	0.1031
29_5	10	5.2	0.0192
30_1	68	6·9	0.0986
30_2	38	31.3	0.0121
30_3	31	5.0	0.0620
30_4	52	6.5	0.0800
30_5	40	5.2	0.0769
30_6	43	8.2	0.0524
31_1	−77	12.8	−0.0602
31_2	12	2.8	0.0429
31_3	105	21.7	0.0484
31_4	51	22.4	0.0228
31_5	− 1	1.6	−0.0063
31_6	−20	3.0	−0.0067
31_7	15	2.0	0.0750
31_8	4	3.6	0.0111
31_9	26	6.8	0.0382
32_1	42	3.4	0.1235
33_4	166	16.6	0.1000
36_1	76	12.9	0.0589

4. Results

The gravity values at all the stations in this District are given in Tables III∼IX for each of the loops separately. In Tables X∼XVI, the materials are arranged synoptically according to the seven prefectures of the District separately. The explanations of the tables precede

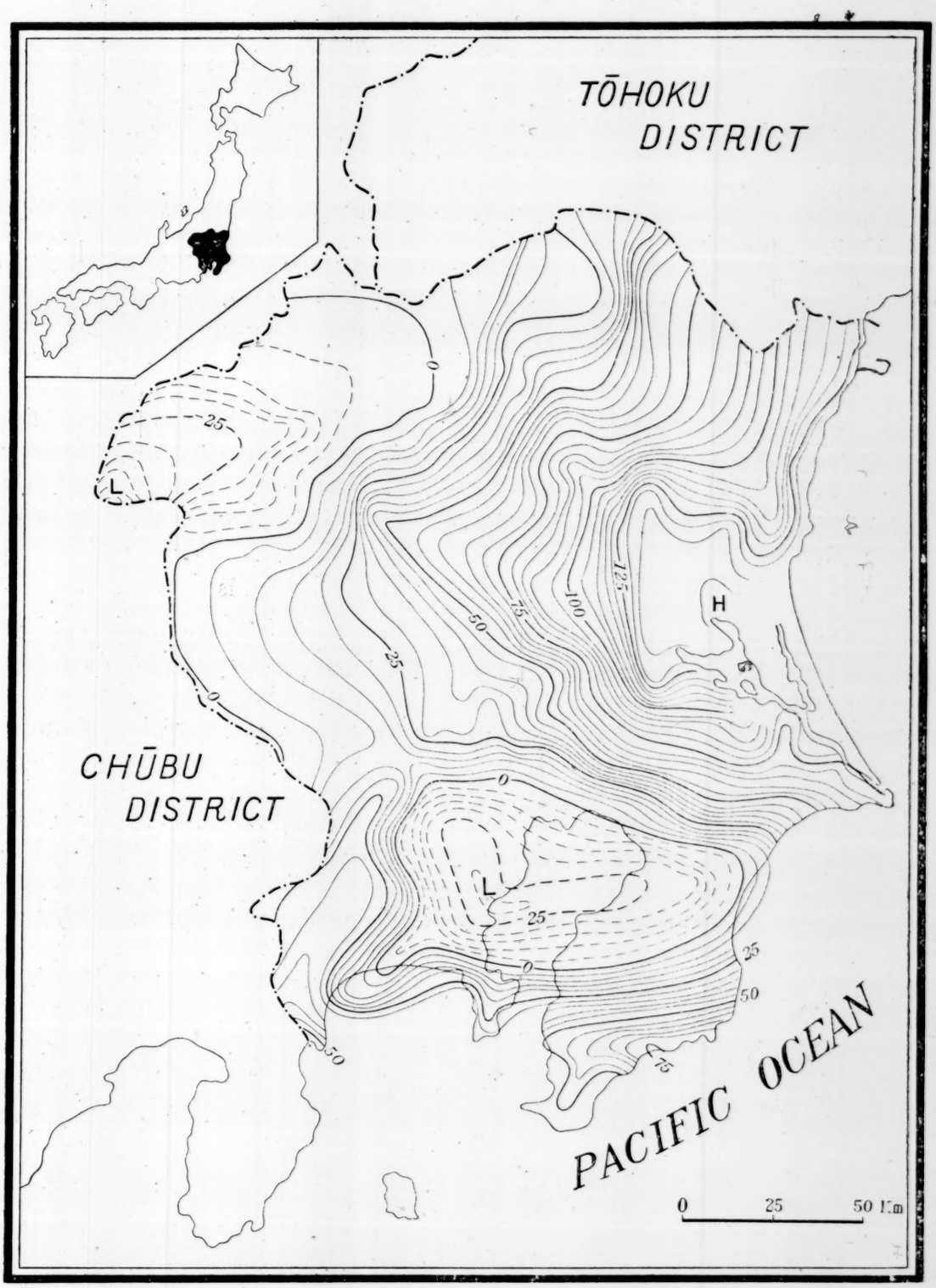

Fig. 4 Simplified Map Showing the BOUGUER Anomaly Distribution in the Kantô District. (mgal.)

them. The lines of equal BOUGUER anomalies based on the International Gravity Formula are shown in Fig. 3 with 2 mgal. intervals. The figure is in the pocket attached to the back cover of the present report. The locations of the contour lines are accurate where they meet the lines of precise levels, but obviously no great accuracy can be claimed for those in the intervenient parts. Fig. 4 is a simplified map showing the same distribution with 5 mgal. intervals.

Reserving the detailed and quantitative geophysical interpretations of the distribution of the BOUGUER anomalies for future studies, we will briefly enumerate the especially notable facts to be observed in Figs. 3 and 4.

1) Although the Kantô District is mostly a flat plain topographically, as was stated before, it is never flat from the gravimetric point of view and the distribution of the gravity anomalies in it is very much complicated. The highest anomaly is 160 mgals., found on the Pacific coast of the northern part of the Ibaraki Prefecture, while the lowest of −30 mgals. is found about 25 km. to the southwest of the city of Tôkyo. Towards the northeast of Tôkyo, the BOUGUER anomaly increases very remarkably. In its steepest part, the increase reaches even 140 mgals. per 40 km., that is 35 Eötvös on average. The gravity gradient of this magnitude is not uncommon in those areas where the gravity fields are very much disturbed by the existence of ores

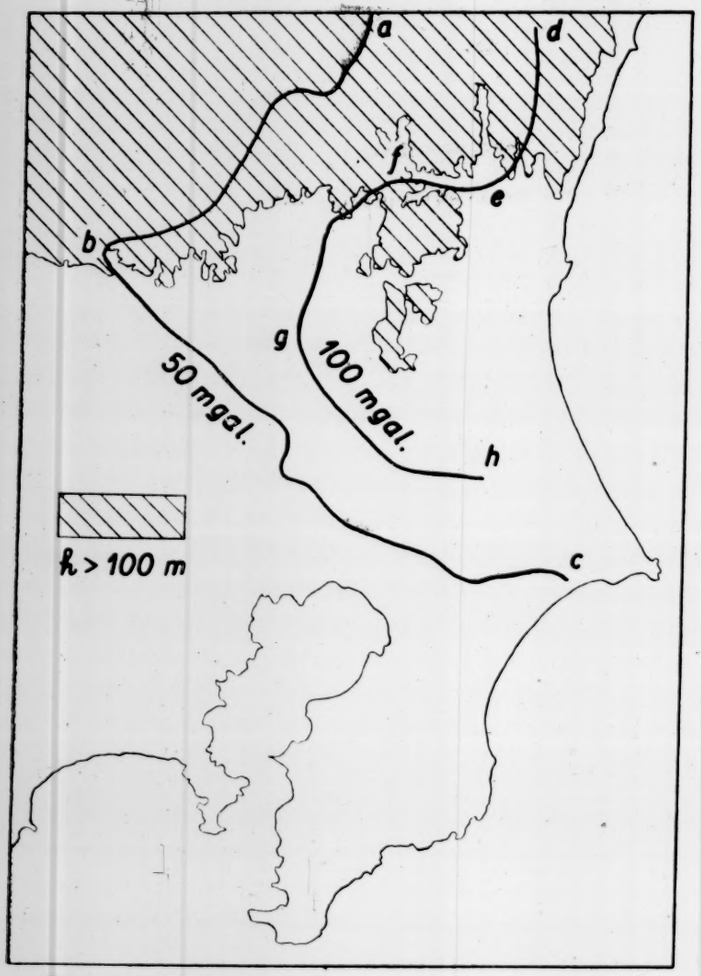

Fig. 5. Approximate Trends of 100 mgal. Line and 50 mgal. Line in the Kantô District.

of economic value, but these are usually localised within a narrow zone of 10 km. or so in width. The steep gradients of gravity anomaly that have been found here in this District are much more regional in character and need considerably anomalous underground structure for them to be explained.

2) In the north-eastern quarter of the Kantô District, the BOUGUER anomalies are decidedly high. Tracing the contour line of 50 mgals., for instance, its trend (abc) is seen to change sharply from NS to EW in the form of the letter L, as shown in Fig. 5. The part (ab) is the natural southward elongation of the Morioka-Shirakawa line which was proposed in the seventh of our serial reports. As was stated before, the Kantô plain is widely covered by Pleistocene and Recent geological formations and there is no direct geological evidence that can be taken as indicating the existence of a discontinuity in the underground structure beneath (abc). Embraced by the line (abc), there is hilly mountain range, shaded in Fig. 5, running NS and consisting of Palaeozoic formation intruded by granite. It seems likely that this heavy mass slopes down into all directions except into N. At a certain depth, the slope of the surface of this mass must be suddenly increasing as shown in Fig. 6. This part is overlaid by young sedimentary formations so that no geological manifestation of this abrupt change in the underground structure can be observed.

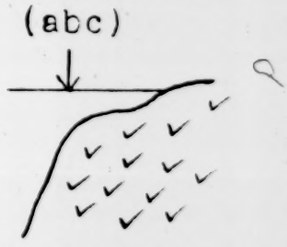

Fig. 6. Profile snowing the Supposed Underground Structure beneath (abc).

3) The contour line of 100 magls. follows (defgh) in Fig. 5. The part of the line (ef) in Fig. 5 is characterised also by steep gradients of gravity anomaly across it and suggests another remarkable underground discontinuity. But, to the best of our knowledge, there is hardly any geological evidence for its existence.

4) A little to the south of the city of Tôkyo, there is an area of gravity low in the form of an ellipse elongated in the EW direction. This gravity low undoubtedly indicates a depression of the earth's crust. It is interesting to note that it is exactly here in the ellipse that moderate earthquakes having depths about 50 km. very frequently take place. For instance, T. KODAIRA (1933), T. NAGATA (1936), and N. NASU, T. HAGIWARA and S. OMOTE (1936) clearly stated that there are two distinct groups of epicentres in the Kantô District, one of which corresponds to the area of gravity low just mentioned. The other group is just along the line of the steep gravity gradient stated before.

5. Acknowledgements

We cannot close this report without expressing our sincere gratitudes to the many officials and individuals who have helped us in various ways in accomplishing this survey. It is almost impossible to mention the names of all these persons. Particularly, we wish to thank Mrs. S. INOUE and Mrs. K. SEKI who have helped us greatly in numerical computations and in preparing the present paper. The necessary expense for executing the present survey was partly defrayed from the Grant in Aid for Scientific Research from the Ministry of Educations.

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ibid., Part VI.

Explanation of Tables

Tables III–IX Results along the Routes

Pref .....Prefecture
No.....Number of Measurement
B.M.....Bench Mark Number
Time.....Time of Measurement
$\sum\delta T$.....Net Time needed to arrive at the Station from the Starting Point
LD .....Large Dial Reading
SD .....Small Dial Reading
$0.9150\times SD$....Conversion of Small Dial Reading to 0.01 mgal.
h .....Height of the Gravimeter above the Bench Mark Head
$0.3086\times h$.....Free-air Reduction to the Bench Mark Head
$E.T.$ .....Correction for the Earth Tides (Factor 1.20)
Drift.....Correction for Drift
$\sum\delta g$ .....Gravity Difference from the Starting Point
g ....Gravity Value (Corrected for Drift and Earth Tides)

Tables X–XVI Synoptic Results for the Prefectures

φ .....Latitude
λ.....Longitude
H.....Height of the Bench Mark above the Sea Level
g .....Gravity Value (Corrected for Drift and Earth Tides)
g_0.....Gravity Value after the Free-air Reduction
g_0'' .....Gravity Value after the BOUGUER Reduction
γ .....Normal Gravity
Δg_0.....Free-air Anomaly
$\Delta g_0''$.....BOUGUER Anomaly

Table III. Results along the Route 28_8. (0.01 mgal.).

Route 28_8 B.M. J.52—B.M. 51—B.M.50—B.M. J.52.

Pref.	No.	B.M.	Date 1952	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	$-4.44 \times \sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
21	1330	J. 52	I 22	9 25	0 00	3353	3068	76	23	−5	0	0	81519	32
〃	1331	51	〃	9 41	16	1774	1623	73	23	−6	−1	−1445	80074	〃
13	1332	50	〃	9 56	31	2880	2635	59	18	−6	−2	− 437	81082	〃
21	1330	J. 52	〃	10 19	54	3347	3063	80	25	−6	−4	0	81519	〃

Table IV. Results along the Routes 29_1, 29_2, 29_3, 29_4, 29_5.(0.01 mgal.).

Route 29_1 B.M. J.37—B.M. 51—Yugawara—B.M.J.37.

Pref.	No.	B.M.	Date 1952	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	$1.25 \times \sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
13	1508	J. 37	III 7	11 06	0 00	4242	3881	49	15	−1	0	0	77892	36
〃	1518	38	〃	11 20	14	3836	3510	56	17	−1	0	− 369	77523	〃
〃	1519	39	〃	11 28	22	3830	3504	64	20	−1	1	− 373	77519	〃
〃	1520	40	〃	11 38	32	3205	2933	62	19	−2	1	− 946	76946	〃
〃	1521	41	〃	11 47	41	2966	2714	55	17	−2	1	−1167	76725	〃
〃	1522	42	〃	11 58	52	3390	3102	71	22	−2	1	− 774	77118	〃
〃	1523	43	〃	12 15	1 09	3867	3538	71	22	−2	2	− 339	77553	〃
〃	1524	44	〃	12 26	1 20	4075	3729	75	23	−2	2	− 147	77745	〃
〃	1525	45	〃	12 36	1 30	4723	4322	73	23	−4	2	414	78336	〃
〃	1526	46	〃	13 49	2 43	5820	5325	64	20	−5	3	1442	79334	〃
〃	1527	47	〃	14 04	2 58	5182	4742	63	19	−5	4	857	78749	〃
〃	1528	48	〃	14 20	3 14	3612	3305	65	20	−5	4	− 579	77313	〃
〃	1529	49	〃	14 34	3 28	5089	4656	47	15	−5	4	767	78659	〃
21	1331	51	〃	15 27	4 21	6630	6036	70	22	−5	6	2182	80074	〃
13	Yugawara		〃	16 48	5 42	6875	6291	27	8	−1	7	2396	80288	〃

〃	〃		III 8	11 19		6972	6379	〃	〃	2				〃
〃	1529	49	〃	13 01	7 24	5200	4758	46	14	−2	9	775	78667	〃
〃	1526	46	〃	13 31	7 54	5931	5427	62	19	−5	10	1445	79337	〃
〃	1521	41	〃	18 48	13 11	3079	2817	55	17	3	17	−1166	76726	〃
〃	1508	J. 37	〃	19 15	13 38	4355	3985	50	15	3	17	0	77892	〃

Route 29_2 B.M. 36—B.M. J. 37—F. 26—B.M. 36.

Pref.	No.	B.M.	Date 1952	Time	$\Sigma\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	$4.29 \times \Sigma\delta T$ Drift	$\Sigma\delta g$	g 979.	Field Note No.
				h m										
13	1507	36	III 6	14 14	0 00	1989	1820	88	27	− 4	0	0	76017	36
〃	1508	J. 37	〃	15 16	1 02	4054	3709	52	16	− 3	4	1875	77892	〃
〃	1509	5360.$_1$	〃	15 40	1 26	4178	3823	57	18	0	6	1992	78009	〃
〃	1510	5361.$_1$	〃	15 53	1 39	4204	3847	57	18	0	7	2015	78032	〃
〃	1511	5362.$_1$	〃	16 10	1 56	4434	4057	67	21	0	8	2227	78244	〃
〃	1512	5363.$_1$	〃	16 28	2 14	6000	5490	70	22	0	9	3660	79677	〃
〃	〃	〃	〃	16 32		2080	1903	〃	〃	3				〃
〃	1513	5364.$_1$	〃	16 46	2 28	1688	1545	63	19	3	11	3297	79314	〃
〃	1514	5365.$_1$	〃	16 58	2 40	1268	1160	48	15	3	12	2907	78924	〃
〃	〃	〃	〃	17 03		3574	3270	〃	〃	3				〃
〃	1515	Aburatsubo B.S.E.R.I.*	〃	18 03	3 40	3500	3203	57	18	6	16	2842	78859	〃
〃	1516	F. 26	〃	18 30	4 07	3102	2838	63	19	6	18	2476	78493	〃
〃	1517	5367.$_1$	〃	19 12	4 49	1318	1206	64	20	9	21	0845	76862	〃
〃	1511	5362.$_1$	〃	20 02	5 39	2830	2589	63	19	11	24	2226	78243	〃
〃	〃	〃	〃	20 09		4550	4163	〃	〃	11				〃
〃	1507	36	〃	20 49	6 19	2113	1933	84	26	11	27	0	76017	〃

* Branch Station, Earthquake Research Institute, on the block for the tiltmeter observation.

Route 29_3 B.M. 36—B.M. 29—B.M.J. 35—B.M. 36.

Pref.	No.	B.M.	Date 1952	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	7.78 × $\sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
13	1507	36	III 6	20 49	0 00	2113	1933	84	26	11	0	0	76017	36
〃	1483	Yokohama P.O.*	〃	21 29	40	1500	1373	27	8	11	5	− 583	75434	〃
〃	〃	〃	III 5	20 23		1253	1146	〃	〃	11				〃
〃	1482	29	〃	20 53	1 10	2531	2316	58	18	11	9	593	76610	〃
〃	〃	〃	III 6	10 55		2618	2395	59	18	− 3				〃
〃	1501	30	〃	11 37	1 52	2246	2055	69	21	− 3	15	250	76267	〃
〃	1502	31	〃	11 50	2 05	1386	1268	62	19	− 3	16	− 540	75477	〃
〃	1483	Yokohama P.O.	〃	12 09	2 24	1347	1233	27	8	− 3	19	− 589	75428	〃
〃	1503	Yokohama W.S.**	〃	12 28	2 43	0567	0519	27	8	− 3	21	−1305	74712	〃
〃	1504	$32._1$	〃	13 22	3 37	1403	1284	54	17	− 4	28	− 539	75478	〃
〃	1505	F. 25	〃	13 32	3 47	1191	1090	56	17	− 4	30	− 735	75282	〃
〃	1506	34	〃	13 45	4 00	1361	1245	74	23	− 4	31	− 575	75442	〃
〃	1484	J. 35	〃	14 00	4 15	1984	1815	59	18	− 4	33	− 12	76005	〃
〃	1507	36	〃	14 14	4 29	1989	1820	88	27	− 4	35	0	76017	〃

* Kanagawa Prefecture Office.

** Weather Station Seismometer Room, on the surface of the concrete block for seismometer installation.

Route 29_4 B.M.J.35—B.M.10357—B.M.J. 35.

Pref.	No.	B.M.	Date 1952	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	10.31 × $\sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
13	1484	J. 35	III 5	11 06	0 00	5549	5077	59	18	− 4	0	0	76005	35
〃	1485	10349	〃	11 21	15	4823	4413	54	17	− 4	3	− 668	75337	〃
〃	1486	10353	〃	12 02	56	6370	5829	60	19	− 3	9	745	76750	〃
〃	1487	10354	〃	12 30	1 24	7529	6889	25	8	− 2	14	1790	77795	〃
〃	〃	〃	〃	12 35		1960	1793	〃	〃	− 2				〃

〃	1488	10356	〃	12 45	1 34	2916	2668	59	18	− 2	17	2672	78677	〃
〃	1489	10357	〃	13 26	2 15	3545	3244	49	15	− 2	24	3238	79213	〃
〃	〃	〃	〃	18 48		5400	4941	50	15	9				36
〃	1484	J. 35	〃	19 47	3 14	1864	1706	60	19	11	33	0	76005	〃

Route 29_5 B.M. 10357—B.M. 10367—B.M. $110._7$—B.M. $105._9$—B.M. 10357.

Pref.	No.	B.M.	Date 1952	Time	$\sum\delta T$	SD	$0.9150 \times SD$	h (cm)	$0.3036 \times h$	$E.T.$	$1.92 \times \sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
13	1489	10357	III 5	13 26	0 00	3545	3244	49	15	− 2	0	0	79243	35
〃	1490	10359	〃	13 38	12	4000	3660	53	16	− 1	0	418	79661	〃
〃	1491	10361	〃	13 53	27	3883	3553	40	12	− 1	1	306	79549	〃
〃	1492	10363	〃	14 06	40	4794	4387	66	20	− 1	1	1148	80391	〃
〃	1493	10364	〃	14 23	57	4433	4056	68	21	− 1	2	817	80060	〃
〃	1494	10366	〃	14 35	1 09	1583	1448	55	17	1	2	−1793	77450	〃
〃	〃	〃	〃	14 43		7108	6504	〃	〃	1				〃
〃	1495	10367	〃	14 50	1 16	6586	6026	60	19	1	2	−2269	76974	〃
12	1496	$110._7$	〃	15 36	2 02	6359	5818	24	7	4	4	−2488	76755	〃
12.13	1497	P. B*	〃	15 48	2 14	4189	3833	27	8	4	4	−4472	74771	〃
〃	〃	〃	〃	15 52		0519	0475	〃	〃	4				〃
13	1498	$110._4$	〃	16 07	2 29	4594	4204	59	18	4	5	− 734	78509	〃
〃	1499	$110._1$	〃	16 31	2 53	4012	3671	79	24	6	6	−1260	77983	〃
〃	1500	$105._9$	〃	16 44	3 06	2949	2698	74	23	6	6	−2234	77009	36
〃	1489	10357	〃	18 48	5 10	5400	4941	50	15	9	10	0	79243	〃

* Prefecture Boundary.

Table V. Results along the Routes 30_1, 30_2, 30_3, 30_4, 30_5, 30_6. (0.01 mgal.).

Route 30_1 B.M. 484—B.M. 10585—B.A.R.

Pref.	No.	B.M.	Date 1952	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	$9.86\times\sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
10	1881	484	VII 9	15 17	0 00	3969	3632	62	19	13	0	0	85005	46
〃	1899	10602	〃	15 48	31	4005	3665	57	18	7	5	21	85026	〃
〃	1900	10600	〃	16 13	56	4260	3898	59	18	7	9	250	85255	〃
〃	1901	10598	〃	16 40	1 23	4499	4117	44	14	1	14	454	85459	〃
〃	1902	10596	〃	17 01	1 44	4293	3928	68	21	1	17	269	85274	〃
〃	1903	10594	〃	17 17	~~2~~ 00	3952	3616	61	19	1	20	− 48	84957	〃
〃	1904	10592	〃	17 30	2 13	3266	2988	66	20	− 5	22	− 683	84322	〃
〃	1905	10590	〃	18 55	3 38	1763	1613	58	18	− 9	35	−2077	82928	〃
〃	1905.R		〃	19 23	4 06	0792	0725	—	—	− 9	40	−2988	82017	〃
〃	〃		〃	19 29		5994	5485	—	—	− 9				〃
〃	1908	10588	〃	19 37	4 14	4712	4311	70	22	−11	41	−4143	80862	〃
〃	1909	10586	〃	19 58	4 35	3883	3553	59	18	−11	45	−4909	80095	〃
〃	1910	10585	〃	20 49	5 26	4117	3767	67	21	−10	53	−4699	80306	〃
12		B.A.R.*	〃	22 18	6 55	3919	3586	27	8	− 7	68	−4905	80100	〃

* Base Apparatus Room, Tôkyo University, on the block for scale calibration.

Route 30_2 B.A.R. —B.M.476—F. 36—B.M. 484—B.M.521—B.M.J. 4102—B.M.J. 2052—B.M. 2004—B.A.R.

Pref.	No.	B.M.	Date 1952	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	$1.21\times\sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
12		B.A.R	VII 3	13 15	0 00	2071	1895	27	8	0	0	0	80100	45
10	1877	476	〃	14 20	1 05	4156	3803	63	19	− 3	1	1915	82015	〃
〃	1878	480	〃	15 05	1 50	6595	6034	47	15	− 5	2	4139	84239	〃
〃	1879	478	〃	15 25	2 10	5189	4748	53	16	− 5	3	2853	82953	〃
〃	1880	F. 35	〃	16 35	3 20	7377	6750	51	16	− 6	4	4853	84953	〃

〃	〃		〃	〃	16 39		0123	0113	〃	〃	− 6				〃
〃	1881		484	〃	17 08	3 49	0183	0167	50	15	− 6	5	4905	85005	〃
〃	1882		486	〃	17 22	4 03	0865	0791	63	19	− 6	5	5533	85633	〃
〃	1883		488	〃	17 34	4 15	1552	1420	38	12	− 5	5	6156	86256	〃
〃	1884		490	〃	17 50	4 31	1812	1658	56	17	− 5	5	6399	86499	〃
〃	1885		492	〃	18 00	4 41	1841	1685	57	18	− 5	6	6426	86526	〃
〃	1886		494	〃	18 16	4 57	2151	1958	52	16	− 5	6	6707	86807	〃
〃	1887		496	〃	18 37	5 18	2020	1848	50	15	− 4	6	6587	86687	〃
〃	1888		498	〃	19 01	5 42	2178	1993	62	19	− 4	7	6735	86835	〃
〃	1889		500	〃	19 18	5 59	2235	2045	79	24	− 4	7	6792	86892	〃
〃	〃		〃	VII 9	9 30		2114	1934	72	22	6				46
〃	1890	Kumagaya	W.S.*	〃	10 18	6 47	2138	1956	27	8	6	8	6799	86899	〃
〃	1891		502	〃	10 42	7 11	2195	2008	64	20	12	9	6868	86968	〃
〃	1892		504	〃	10 56	7 25	2159	1975	71	22	12	9	6837	86937	〃
〃	1893		507	〃	11 22	7 51	2056	1881	69	21	12	10	6741	86841	〃
〃	1894		508	〃	11 31	8 00	1948	1782	72	22	16	10	6647	86747	〃
〃	1895		510	〃	11 43	8 12	2158	1975	68	21	16	10	6839	86939	〃
〃	1896		512	〃	12 00	8 29	1800	1647	64	20	16	10	6510	86610	〃
〃	1897		514	〃	12 12	8 41	1607	1470	58	18	16	11	6330	86430	〃
9	1898		516	〃	12 25	8 54	1202	1100	98	30	16	11	5972	86072	〃
〃	3394.2		〃	1953 II 5	12 53		3540	3239	91	28	4				66
〃	3395		519	〃	14 34	10 35	2363	2162	46	14	7	13	4882	84982	67
〃	3396		521	〃	15 00	11 01	1902	1740	69	21	7	13	4467	84567	〃
〃	3397		4151	〃	15 46	11 47	1831	1675	56	17	6	14	4396	84496	〃
〃	3398		4149	〃	15 58	11 59	1689	1545	33	10	6	15	4258	84358	〃
〃	3399		4147	〃	16 16	12 17	2337	2138	55	17	6	15	4858	84958	〃
〃	3400		4145	〃	16 29	12 30	1951	1785	57	18	6	15	4505	84605	〃
〃	3401		4143	〃	16 41	12 42	1732	1585	59	18	4	15	4304	84404	〃
〃	3402		4141	〃	17 00	13 01	2488	2277	44	14	4	16	4991	85091	〃
〃	3403		4139	〃	17 17	13 18	4804	4396	42	13	4	16	7109	87209	〃
〃	3404		4137	〃	17 29	13 30	4948	4527	50	15	4	16	7242	87342	〃
〃	3405		〃	II 6	9 34		5114	4679	53	16	− 6				〃
〃	3406		4135	〃	10 17	14 13	3147	2880	52	16	− 6	17	5442	85542	〃
〃	3407		4132	〃	10 54	14 50	1562	1429	64	20	− 5	18	3995	84095	〃
〃	3408.1		4130	〃	11 37	15 33	0623	0570	44	14	− 2	19	3132	83232	〃

* Weather Station Bench Mark.

Table V . (Continued)

Pref.	No.	B.M.	Date 1953	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	1.21 × $\sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
9	3408.$_2$	4130	II 6	11 42		6284	5750	44	14	− 2				67
〃	3409	4128	〃	11 58	15 49	4770	4365	64	20	− 2	19	1753	81853	〃
〃	3410	4126	〃	12 16	16 07	2972	2719	62	19	− 2	20	105	80205	〃
〃	3411	4124	〃	12 29	16 20	2012	1841	57	18	− 2	20	− 774	79326	〃
8	3412	4122	〃	12 55	16 46	0455	0416	59	18	1	20	− 2196	77904	〃
〃	3719.$_1$	〃	IV 18	13 48		5383	4925	56	17	12				71
〃	3718	4119	〃	13 25	17 09	4257	3895	41	13	10	21	− 3233	76867	〃
〃	3717.$_2$	4116	〃	13 03	17 31	0806	0737	70	22	10	21	− 6382	73718	〃
〃	3717.$_1$	〃	〃	12 58		5998	5488	〃	〃	10				〃
〃	3716	4114	〃	12 40	17 49	1129	1033	70	22	10	22	−10838	69262	〃
〃	3715.$_2$	4109	〃	11 49	18 40	7646	6996	43	13	7	23	− 4888	75212	〃
〃	3715.$_1$	〃	〃	11 47		1495	1368	〃	〃	7				〃
〃	3714	4105	〃	11 22	19 05	6092	5574	78	24	3	23	− 675	79425	〃
〃	3713.$_2$	〃	〃	11 14	19 13	7666	7014	—	—	3	23	741	80841	〃
〃	3713.$_1$		〃	11 12		1210	1107	—	—	3				〃
〃	3712	4104	〃	10 55	19 30	2937	2687	83	26	3	24	2346	82446	〃
〃	3711	J. 4102	〃	10 36	19 49	5236	4791	57	18	3	24	4442	84542	〃
〃	3701	〃	IV 17	15 35		1871	1712	48	15	10				〃
〃	3700	4100	〃	15 22	20 02	3597	3291	42	13	13	24	6022	86122	〃
〃	3699	4098	〃	15 06	20 18	5900	5399	56	17	13	25	8133	88233	〃
〃	3698.$_2$	4095	〃	14 52	20 32	7661	7010	61	19	13	25	9746	89846	〃
〃	3698.$_1$	〃	〃	14 50		1336	1222	〃	〃	13				〃
〃	3697	4094	〃	14 39	20 43	3733	3416	60	19	13	25	11940	92040	〃
〃	3695	4092	〃	14 11	21 11	4358	3988	48	15	15	26	12509	92609	〃
〃	3695	4090	〃	13 46	21 36	4813	4404	39	12	15	26	12922	93022	〃
〃	3691	Utsunomiya W.S.*	〃	13 13	22 09	5840	5344	67	21	14	27	13869	93969	70
〃	3693	J. 2052	〃	12 48	22 34	6263	5731	93	29	14	27	14264	94364	〃
〃	3568	〃	III 11	14 48		2343	2144	〃	〃	− 3				69
〃	3567	2050	〃	14 30	22 52	3007	2751	91	28	− 3	28	14869	94969	〃
〃	3566	2048	〃	14 08	23 14	1825	1670	61	19	− 5	28	13777	93877	〃

* Weather Station, stone mark made of Oyaishi.

〃	3565	2046	〃	13 59	23 23	1775	1624	73	23	− 5	28	13735	93835	〃
〃	3564	2044	〃	13 51	23 31	2137	1955	61	19	− 5	29	14061	94161	〃
〃	3563	2042	〃	13 27	23 55	1996	1826	70	22	− 6	29	13934	94034	〃
〃	3562	2040	〃	13 19	24 03	1701	1556	55	17	− 6	29	13659	93759	〃
〃	3561	2038	〃	13 11	24 11	1699	1555	51	16	− 6	29	13657	93757	〃
〃	3560	2036	〃	13 01	24 21	1623	1485	72	22	− 6	30	13592	93692	〃
〃	3559	2034	〃	12 54	24 28	1611	1474	62	19	− 6	30	13578	93678	〃
〃	3558	2032	〃	12 46	24 36	1379	1262	52	16	− 6	30	13363	93463	〃
〃	$3557._2$	2030	〃	12 37	24 45	0071	0065	34	10	− 6	30	12160	92260	〃
〃	$3557._1$	〃	〃	12 34		6727	6155	〃	〃	− 6				〃
7	3556	2028	〃	12 22	24 57	5583	5108	75	23	− 5	30	11127	91227	〃
10	3555	2025	〃	11 58	25 21	4293	3928	47	15	− 5	31	9938	90038	〃
			1952											
〃	1922	〃	VII 10	16 26		3193	2922	61	19	10				46
〃	1921	2023	〃	16 12	25 35	2980	2727	16	5	10	31	9729	89829	〃
〃	〃	〃	〃	16 08		6417	5872	〃	〃	10				〃
〃	1920	2021	〃	14 19	27 24	4953	4532	50	15	15	33	8402	88502	〃
〃	1919	2019	〃	14 08	27 35	3998	3658	70	22	15	34	7534	87634	〃
〃	1918	2017	〃	13 50	27 53	3497	3200	55	17	15	34	7071	87171	〃
〃	1917	2015	〃	13 38	28 05	3014	2758	58	18	15	34	6630	86730	〃
〃	〃	〃	〃	13 35		0642	0587	〃	〃	15				〃
〃	1916	2013	〃	13 20	28 20	0740	0677	80	25	14	34	6726	86826	〃
〃	1915	2011	〃	12 55	28 45	0925	0846	64	20	14	35	6889	86989	〃
〃	1914	2009	〃	12 39	29 01	0088	0081	64	20	14	35	6124	86224	〃
〃	〃	〃	VII 10	12 36		6746	6173	〃	〃	14				〃
〃	1913	2007	〃	12 20	29 17	4973	4550	86	27	10	36	4503	84603	〃
〃	1912	2006	〃	12 05	29 32	4206	3848	79	24	10	36	3798	83898	〃
12	1911	2004	〃	11 42	29 55	2791	2554	42	13	10	36	2493	82593	〃
〃		B.A.R.	〃	10 21	31 16	0085	0078	27	8	0	38	0	80100	〃

Route 30_3 B.M. 521—B.M. 545—B.M. 521.

Pref.	No.	B.M.	Date 1953	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	6.20 × $\sum\delta T$ Drift	Adjustment	$\sum\delta g$	g 979.	Field Note No.
				h m	h m										
9	3457	521	II 20	13 53	0 00	7202	6590	64	20	6	0	0	0	84567	67
〃	3458	523	〃	14 09	16	7194	6583	71	22	6	2	0	− 7	84560	〃
〃	3459	525	〃	14 18	25	6899	6313	43	13	6	2	2	− 288	84279	〃
〃	3460	527	〃	14 40	47	5969	5461	49	15	9	5	7	− 1143	83424	〃
〃	3461	529	〃	15 00	1 07	4660	4264	61	19	9	7	13	− 2344	82223	〃
〃	3462	531	〃	15 08	1 15	3461	3167	49	15	9	8	20	− 3153	81114	〃
〃	3463	533	〃	15 25	1 32	2030	1857	57	18	9	9	27	− 4768	79799	〃
〃	3464.1	535	〃	15 46	1 53	0393	0360	60	19	10	12	36	− 6275	78292	〃
〃	3464.2	〃	〃	15 49		7711	7056	〃	〃	10					〃
〃	3465	538	〃	16 04	2 08	3153	2885	60	19	10	13	60	−10471	74096	〃
〃	3466.1	540	〃	16 27	2 31	1296	1186	59	18	10	16	70	−12184	72383	〃
〃	3466.2	〃	〃	16 30		7689	7035	〃	〃	9					〃
〃	3467	542	〃	16 48	2 49	3965	3628	66	20	9	17	89	−15609	68958	〃
19	3468	545	〃	17 22	3 23	0230	0210	59	18	9	21	109	−19053	65514	〃
9	3469.1	540	〃	17 52	3 53	7707	7052	57	18	10	24	70	−12174	72393	〃
〃	3469.2	〃	〃	17 56		0435	0398	〃	〃	10					〃
〃	3470.1	535	〃	18 22	4 19	6852	6270	55	17	10	27	36	− 6272	78295	68
〃	3470.2	〃	〃	18 25		0137	0125	〃	〃	10					〃
〃	3471	521	〃	19 08	5 02	6953	6362	69	21	9	31	0	0	84567	〃

Route 30_4 B.M. 521—B.M. 3547—B.M. 521.

Pref.	No.	B.M.	Date 1953	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	8.00 × $\sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
9	3440	521	II 19	15 51	0 00	4895	4479	64	20	10	0	0	84567	67
〃	3441	3518	〃	16 13	22	4626	4233	61	19	10	3	− 250	84317	〃
〃	3442	3520	〃	16 25	34	3823	3498	46	14	10	5	− 992	83575	〃
〃	3443	3522	〃	16 42	51	2420	2214	42	13	9	7	−2280	82287	〃
〃	3444	3524	〃	16 56	1 05	2082	1905	44	14	9	9	−2590	81977	〃

〃	3445	3526	〃	17 06	1 15	2717	2486	52	16	9	10	−2008	82559	〃
〃	3446	3528	〃	17 20	1 29	2683	2455	56	17	9	12	−2040	82527	〃
〃	3447	3530	〃	17 31	1 40	1911	1749	69	21	8	14	−2745	81822	〃
〃	3448.1	3533	〃	17 43	1 52	1212	1109	63	19	8	15	−3388	81179	〃
〃	3448.2	〃	〃	17 48		7587	6942	〃	〃	8				〃
〃	3449	3537	〃	18 13	2 17	6680	6112	55	17	8	18	−4223	80344	〃
〃	3450	〃	II 20	9 38		6845	6263	57	18	− 6				〃
〃	3451	3539	〃	9 49	2 28	7294	6674	52	16	− 6	20	−3816	80751	〃
〃	3452	3542	〃	10 21	3 00	5896	5395	58	18	− 6	24	−5097	79470	〃
〃	3453	3545	〃	10 46	3 25	4612	4220	48	15	− 3	27	−6275	78292	〃
〃	3454	3547	〃	11 04	3 43	2318	2121	67	21	− 3	30	−8371	76196	〃
〃	3455.1	3537	〃	11 57	4 36	6851	6269	56	17	0	37	−4231	80336	〃
〃	3455.2	〃	〃	12 01		2572	2353	〃	〃	0				〃
〃	3456	3535	〃	12 23	4 58	2589	2369	71	22	0	40	−4213	80354	〃
〃	3457	521	〃	13 53	6 28	7202	6590	64	20	6	52	0	84567	〃

Route 30_5 B.M.J. 4102—B.M. 6656—B.M.J. 4102.

Pref.	No.	B.M.	Date 1953	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	7.69 × $\sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
8	3701	J. 4102	IV 17	15 35	0 00	1871	1712	48	15	10	0	0	84542	71
〃	3702	6636	〃	15 55	20	3038	2780	51	16	10	2	1067	85609	〃
〃	3703	6638	〃	16 05	30	4161	3807	47	15	10	4	2091	86633	〃
〃	3704	6641	〃	16 20	45	2940	2690	48	15	10	6	972	85514	〃
〃	3705.1		〃	17 05	1 30	0510	0467	−	−	6	12	−1276	83266	〃
〃	3705.2		〃	17 07		7487	6851	−	−	6				〃
〃	3706	6645	〃	17 12	1 35	7655	7004	38	12	6	12	−1111	83431	〃
〃	3707	6652	〃	18 19	2 42	4964	4542	58	18	1	21	−3581	80961	〃
〃	3708.1	6656	〃	18 48	3 11	3972	3634	62	19	− 3	25	−4496	80046	〃
〃	3708.2	〃	〃	18 51		0150	0137	〃	〃	− 3				〃
〃	3709	6641	〃	20 11	4 31	6146	5624	42	13	− 6	35	972	85514	〃
〃	3710	〃	IV 18	9 53		6302	5766	49	15	− 2				〃
〃	3711.	J. 4102	〃	10 36	5 14	5236	4791	57	18	3	40	0	84542	〃

Route 30_6 B.M.J.2052—B.M.2094—B.M. J.2052.

Pref.	No.	B.M.	Date 1953	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	5.24 × $\sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
8	3579	J. 2052	III 12	10 09	0 00	2457	2248	93	29	0	0	0	94364	69
〃	3580	2054	〃	10 21	12	1803	1650	59	18	0	1	− 610	93754	〃
〃	3581	2056	〃	10 31	22	1670	1528	52	16	− 1	2	− 736	93628	〃
〃	$3582._1$	2058	〃	10 45	36	0564	0516	71	22	− 1	3	−1743	92621	〃
〃	$3582._2$	〃	〃	10 49		6458	5909	〃	〃	− 1				〃
〃	3583	2060	〃	11 00	47	5367	4911	66	20	− 1	4	−2744	91620	〃
〃	3584	2062	〃	11 12	59	4977	4554	69	21	− 1	5	−3101	91263	〃
〃	3585	2064	〃	11 22	1 09	4598	4207	9	3	− 1	6	−3467	90897	〃
〃	3586	2066	〃	11 33	1 20	4405	4031	63	19	− 3	7	−3630	90734	〃
〃	3587	2068	〃	11 42	1 29	4227	3868	43	13	− 3	8	−3800	90564	〃
〃	3588	2070	〃	11 52	1 39	3002	2747	61	19	− 3	9	−4916	89448	〃
〃	3589	2072	〃	12 10	1 57	2255	2063	58	18	− 3	10	−5602	88762	〃
〃	3590	2074	〃	12 20	2 07	1769	1619	55	17	− 3	11	−6048	88316	〃
〃	3591	2076	〃	12 30	2 17	1905	1743	38	12	− 6	12	−5933	88431	〃
〃	3592	2078	〃	12 40	2 27	2580	2361	51	16	− 6	13	−5312	89052	〃
〃	3593	2080	〃	12 50	2 37	3080	2818	47	15	− 6	14	−4857	89507	〃
〃	3594	2082	〃	13 35	3 22	4439	4062	55	17	− 7	18	−3616	90748	〃
〃	3595	2084	〃	13 46	3 33	4783	4376	47	15	− 7	19	−3305	91059	〃
〃	3596	2086	〃	13 56	3 43	4326	3958	32	10	− 7	19	−3728	90636	〃
〃	3597	2088	〃	14 33	4 20	3438	3146	55	17	− 7	23	−4537	89827	〃
6	3598	2091	〃	15 10	4 57	3163	2894	56	17	− 7	26	−4792	89572	〃
〃	3599	2094	〃	15 27	5 14	5345	4891	56	17	− 7	27	−2796	91568	〃
8	3600	2086	〃	16 16	6 03	4339	3970	31	10	− 5	32	−3727	90637	〃
〃	3601	2082	〃	17 07	6 54	4457	4078	53	16	− 2	36	−3614	90750	〃
〃	$3602._2$	〃	III 13	11 39		2209	2021	56	17	1				〃
〃	3603	J. 2052	〃	12 54	8 09	6157	5634	93	29	− 3	43	0	94364	〃

Table VI. Results along the Routes 31_1, 31_2, 31_3, 31_4, 31_5, 31_6, 31_7, 31_8, 31_9. (0.01mgal.).

Route 31_1 B.A. R.—B.M. J.3370—B.M.J. 4033—B.M. 4041—B.M. 4043—B.M. 4152—B.M.J. 2052.

Pref.	No.	B.M.	Date 1953	Time	$\Sigma\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	−6.02 × $\Sigma\delta T$ Drift	$\Sigma\delta g$	g 979.	Field Note No.
				h m	h m									
12		B.A.R.	III 5	9 14	0 00	0115	0105	27	8	− 5	0	0	80100	68
〃	3493	J. 3370	〃	10 35	1 21	2821	2581	84	26	3	− 8	2510	82610	〃
11	3494	10892	〃	11 10	1 56	4943	4523	43	13	3	−11	4442	84542	〃
〃	$3495._1$	10894	〃	11 22	2 08	6540	5984	42	13	3	−13	5905	86005	〃
〃	$3495._2$	〃	〃	11 25		0261	0239	〃	〃	3				〃
〃	3496	10896	〃	11 35	2 18	2343	2144	46	14	6	−14	7815	87915	〃
〃	3497	10898	〃	11 49	2 32	2904	2657	82	25	6	−15	8340	88440	〃
〃	3498	10900	〃	12 00	2 43	3572	3268	81	25	6	−16	8952	89052	〃
7	3499	10902	〃	12 22	3 05	4727	4325	61	19	6	−19	10006	90106	〃
〃	3500	10904	〃	12 33	3 16	5810	5316	59	18	9	−20	11000	91100	〃
〃	$3501._1$		〃	12 57	3 40	7402	6773	—	—	9	−22	12441	92541	〃
〃	$3501._2$		〃	13 00		0196	0179	—	—	9				〃
〃	3502	10907	〃	13 07	3 47	0791	0727	79	24	9	−23	13014	93114	〃
〃	3503	10909	〃	13 15	3 55	3663	3352	57	18	9	−23	15633	95733	〃
〃	3504	10911	〃	13 25	4 05	4224	3865	59	18	9	−25	16148	96248	〃
〃	3505	10913	〃	13 38	4 18	4320	3953	51	16	10	−26	16236	96336	〃
〃	3506	J. 4033	〃	13 50	4 30	5103	4669	111	34	10	−27	16971	97071	〃
			1952											
〃	1538	〃	III 12	14 44		2159	1975	65	20	− 2				37
〃	1539	4035	〃	15 47	5 33	2167	1983	59	18	− 6	−34	16980	97080	〃
〃	1540	4037	〃	16 04	5 50	2531	2316	60	19	− 6	−35	17315	97415	〃
〃	1541	4039	〃	16 19	6 05	3090	2827	60	19	− 6	−37	17828	97928	〃
〃	1542	4041	〃	16 43	6 29	3335	3052	88	27	− 7	−39	18062	98162	〃
〃	〃	〃	III 13	9 57		3423	3132	〃	〃	4				〃
〃	1546	4043	〃	10 11	6 43	3950	3614	61	19	4	−40	18537	98637	〃
〃	1547	4045	〃	10 28	7 00	4199	3842	64	20	4	−42	18768	98868	〃

Table VI. (Continued)

Pref.	No.	B.M.	Date 1952	Time	$\Sigma\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	−6.02 × $\Sigma\delta T$ Drift	$\Sigma\delta g$	g 979.	Field Note No.
				h m	h m									
7	1548	4047	III 13	10 46	7 18	3848	3521	37	11	8	−44	18444	98544	37
〃	1549	4049	〃	11 04	7 36	3567	3264	42	13	8	−46	18191	98291	〃
〃	1550	4051	〃	11 20	7 52	3829	3504	59	18	8	−48	18438	98538	〃
〃	1551	4053	〃	11 33	8 05	2821	2581	44	14	10	−49	17514	97614	〃
〃	1552	4055	〃	11 44	8 16	2813	2574	53	16	10	−50	17510	97610	〃
〃	1553	4152	〃	11 59	8 31	2451	2243	53	16	10	−51	17180	97280	〃
			1953											
〃	3507	〃	III 5	15 15		5355	4900	45	14	9				68
〃	3508	4057	〃	15 38	8 54	6356	5816	58	18	6	−54	18100	98200	〃
〃	3509.$_1$	4059	〃	15 50	9 06	7029	6432	46	14	6	−55	18713	98813	〃
〃	3509.$_2$	〃	〃	15 53		0847	0775	〃	〃	6				〃
〃	3510	4061	〃	16 06	9 19	1206	1103	60	19	6	−56	19047	99147	〃
〃	3511.$_1$	4063	〃	16 25	9 38	0176	0161	40	12	6	−58	18100	98200	〃
〃	3511.$_2$	〃	〃	16 28		4510	4127	〃	〃	6				〃
〃	3512	4065	〃	16 37	9 47	4799	4391	65	20	3	−59	18370	98470	〃
〃	3513	4067	〃	16 59	10 09	4625	4232	55	17	3	−61	18210	98310	〃
〃	3514	4069	〃	17 11	10 21	3518	3219	73	23	3	−63	17205	97305	〃
8	3515	4070	〃	17 20	10 30	1672	1530	44	14	3	−63	15507	95607	〃
〃	3577	〃	III 11	17 04		3727	3410	42	13	4				〃
〃	3576	4072	〃	16 51	10 43	5141	4704	65	20	4	−64	16809	96909	〃
〃	3575	4074	〃	16 35	10 59	5875	5376	41	13	4	−66	17476	97576	〃
〃	3574	4076	〃	16 26	11 08	6579	6020	69	21	0	−67	18125	98225	〃
〃	3573	4078	〃	16 14	11 20	6526	6063	54	17	0	−68	18165	98265	〃
〃	3572	4080	〃	16 03	11 31	4549	4162	61	19	0	−69	16267	96367	〃
〃	3571	4082	〃	15 50	11 44	3222	2948	64	20	0	−70	15055	95155	〃
〃	3570	4084	〃	15 36	11 58	1679	1536	56	17	0	−72	13642	93742	〃
〃	3569	4086	〃	15 09	12 25	2395	2191	25	8	− 3	−75	14288	94388	〃
〃	3568	J. 2052	〃	14 48	12 46	2343	2144	93	29	− 3	−77	14264	94364	〃

Route 31_2 B.M.J. 3373—B.M. 3370—B.M.J. 3373—B.M. 9838—B.M. 3825—B.M.J. 3373.

Pref.	No.	B.M.	Date 1952	Time	$\sum\delta T$	SD	$0.9150 \times SD$	h (cm)	$0.3086 \times h$	$E.T.$	$4.29 \times \sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
11	1372	J. 3373	I 31	9 45	0 00	6288	5754	62	19	− 7	0	0	81297	33
〃	1373	J. V	〃	9 57	12	6746	6173	34	10	− 7	1	409	81706	〃
〃	1374	3371	〃	10 29	44	6877	6292	66	20	− 7	3	536	81833	〃
〃	〃	〃	〃	10 31		4741	4338	〃	〃	− 5				〃
12	1375	3370	〃	10 43	56	5591	5116	64	20	− 5	4	1313	82610	〃
11	1372	J. 3373	〃	11 02	1 15	4156	3803	61	19	− 5	6	− 3	81294	〃
〃	1376	3823	〃	11 16	1 29	3592	3287	53	16	− 5	6	− 522	80775	〃
〃	1377	9838	〃	11 40	1 53	2065	1889	67	21	− 1	8	−1913	79384	〃
〃	1378	9840	〃	11 52	2 05	2812	2573	65	20	− 1	9	−1231	80066	〃
〃	1379	9842	〃	12 05	2 18	3262	2985	66	20	− 1	10	− 820	80477	〃
〃	1380	3825	〃	12 20	2 33	3389	3101	65	20	− 1	11	− 705	80592	〃
〃	〃	〃	II 2	18 44		2489	2277	63	19	5				34
〃	1372	J. 3373	〃	19 01	2 50	3260	2983	60	19	5	12	0	81297	〃

Route 31_3 B.M. 3833—Kisarazu—Kamogawa—B.M. 3833.

Pref.	No.	B.M.	Date 1952	Time	$\sum\delta T$	SD	$0.9150 \times SD$	h (cm)	$0.3086 \times h$	$E.T.$	$4.84 \times \sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
11	1384	3833	I 31	13 22	0 00	4491	4109	61	19	2	0	0	78230	33
〃	1385	3835	〃	14 29	1 07	3915	3582	76	23	5	5	− 525	77705	〃
〃	1386	J. 3837	〃	14 44	1 22	3065	2804	62	19	6	7	−1308	76922	〃
〃	1387	3839	〃	15 00	1 38	2610	2388	72	22	6	8	−1722	76508	〃
〃	1388	3841	〃	15 15	1 53	2273	2080	64	20	6	9	−2033	76197	〃
〃	1389	3844	〃	15 43	2 21	1841	1685	68	21	7	12	−2429	75801	〃
〃	1390	3847	〃	16 29	3 07	2042	1868	68	21	7	15	−2249	75981	〃
〃	1391	3849	〃	16 49	3 27	2431	2224	58	18	5	17	−1900	76330	〃
〃	1392	3852	〃	17 16	3 54	2659	2433	67	21	5	19	−1690	76540	〃
〃	Kisarazu		〃	17 38	4 16	2661	2435	27	8	2	21	−1706	76524	〃

Table VI. (Continued)

Pref.	No.	B.M.	Date 1952	Time	$\sum\delta T$	SD	$0.9150 \times SD$	h (cm)	$0.3086 \times h$	$E.T.$	$4.84 \times \sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
11	Kisarazu		H 1	9 14		2741	2508	27	8	− 8				33
〃	1392	3852	〃	9 24	4 26	2755	2521	70	22	− 8	21	−1679	76551	〃
〃	1393	3856	〃	10 23	5 25	3046	2787	56	17	− 6	26	−1421	76809	〃
〃	1394	3858	〃	10 32	5 34	3238	2963	131	40	− 3	27	−1220	77010	〃
〃	1395	3860	〃	10 56	5 58	4135	3784	67	21	− 3	29	− 420	77810	〃
〃	1396	3863	〃	11 38	6 40	5707	5222	55	17	1	32	1015	79245	〃
〃	Minato	*	〃	11 58	7 00	6173	5648	—	—	1	34	1422	79652	〃
〃		〃	〃	12 02		1492	1365	—	—	1				〃
〃	1397	3866	〃	12 41	7 39	1495	1368	49	15	1	37	1437	79667	〃
〃	1398	3868	〃	12 51	7 49	1995	1825	63	19	1	38	1897	80127	〃
〃	1399	3870	〃	13 06	8 04	2548	2331	63	19	1	39	2402	80632	〃
〃	1400	3872	〃	13 27	8 25	2353	2153	55	17	1	41	2220	80450	〃
〃	1401	3874	〃	13 39	8 37	1586	1451	59	18	4	42	1521	79751	〃
〃	1402	3877	〃	14 05	9 03	0139	0127	25	8	4	44	0185	78415	〃
〃	〃	〃	〃	14 12		3769	3449	〃	〃	4				〃
〃	1403	3879	〃	14 27	9 18	4771	4365	76	23	4	45	1115	79345	〃
〃	1404	Tateyama B.S.**	〃	14 50	9 41	5564	5091	−48	−15	6	47	1803	80033	〃
〃	1405	3881	〃	15 04	9 55	4923	4505	40	12	6	48	1243	79473	〃
〃	1406	3883	〃	15 20	10 11	4291	3926	63	19	6	49	0670	78900	〃
〃	1407	3885	〃	15 33	10 24	3756	3437	64	20	8	50	0183	78413	34
〃	1408	3887	〃	15 48	10 39	3875	3546	61	19	8	52	0289	78519	〃
〃	1409	3889	〃	16 04	10 55	4854	4441	45	14	8	53	1178	79408	〃
〃	1410	3891	〃	16 18	11 09	5492	5025	37	11	8	54	1758	79988	〃
〃	1411	3893	〃	16 51	11 42	6496	5944	45	14	7	57	2676	80906	〃
〃	1412	3894	〃	17 32	12 23	6896	6310	60	19	6	60	3043	81273	〃
〃	〃	〃	〃	17 36		1622	1484	〃	〃	6				〃
〃	1413	3895	〃	17 48	12 35	3454	3160	83	26	6	61	4725	82955	〃
〃	Kamogawa		〃	18 13	13 00	3574	3270	27	8	6	63	4815	83045	〃
〃	〃		II 2	8 35		3677	3364	〃	〃	−7				〃
〃	1413	3895	〃	9 02	13 27	3546	3245	95	29	−7	65	4715	82945	〃

* Front of the Minato village office.
** Tateyama Branch Station of Tomisaki Weather Station.

〃	1414		3897	〃	9 19	13 44	4218	3859	72	22	− 7	66	5321	83551	〃
〃	1415		3899	〃	9 34	13 59	3853	3525	54	17	− 6	68	4981	83211	〃
〃	1416		3901	〃	9 45	14 10	3678	3365	60	19	− 6	69	4822	83052	〃
〃	1417		3903	〃	10 39	15 04	3346	3062	29	9	− 5	73	4506	82736	〃
〃	1418		3905	〃	10 54	15 19	4015	3674	57	18	− 5	74	5126	83356	〃
〃	1419		3907	〃	11 11	15 36	3674	3362	56	17	− 5	75	4812	83042	〃
〃	1420	Katsuura W.S. *		〃	11 29	15 54	3495	3198	80	25	− 5	77	4654	82884	〃
〃	1421		3909	〃	11 43	16 08	3603	3297	66	20	− 2	78	4750	82980	〃
〃	1422		3911	〃	11 57	16 22	3119	2854	70	22	− 2	79	4308	82538	〃
〃	1423	F. 5		〃	12 11	16 36	1897	1736	46	14	− 2	80	3181	81411	〃
〃	1424		3915	〃	12 24	16 49	1802	1649	66	20	− 2	81	3099	81329	〃
〃	1425		3917	〃	13 19	17 44	1125	1029	61	19	1	86	2476	80706	〃
〃	〃		〃	〃	13 24		6237	5707	〃	〃	1				〃
〃	1426		3919	〃	13 36	17 56	5539	5068	61	19	4	87	1839	80069	〃
〃	1427		3921	〃	13 51	18 11	4256	3894	64	20	4	88	665	78895	〃
〃	1428		3923	〃	14 03	18 23	4110	3761	65	20	4	89	531	78761	〃
〃	1429		3925	〃	14 15	18 35	3388	3100	68	21	4	90	− 130	78100	〃
〃	1430		3927	〃	14 26	18 46	2693	2464	71	22	4	91	− 766	77464	〃
〃		Mobara	**	〃	14 53	19 13	2532	2317	27	8	7	93	− 926	77304	〃
〃	1431		3930	〃	15 15	19 35	2260	2068	72	22	7	95	−1163	77067	〃
〃	1432		3932	〃	15 26	19 46	2161	1977	75	23	7	96	−1254	76976	〃
〃	1433		3934	〃	15 55	20 15	2737	2504	75	23	8	98	− 728	77502	〃
〃	1434		10693	〃	16 12	20 32	0576	0527	65	20	8	99	−2709	75521	〃
〃	〃		〃	〃	16 18		4823	4413	〃	〃	8				〃
〃	1435		10691	〃	16 44	20 58	4906	4489	59	18	8	102	−2638	75592	〃
〃	1436		10689	〃	16 54	21 08	5348	4893	64	20	8	102	−2232	75998	〃
〃	1437		10688	〃	17 03	21 17	5797	5304	62	19	8	103	−1823	76407	〃
〃	〃		〃	〃	17 10		2894	2648	〃	〃	8				〃
〃	1384		3833	〃	17 33	21 40	4890	4474	61	19	7	105	0	78230	〃

* Weather Station, on the floor at the base of the stair-case to the wind tower.

** Entrance of the office of the Mobara Ôtaki Natural Gas Co.

Route 31_4 BM. 3825—B.M. 3833—B.M. 3936—B.M. 3962—Chôshi—Chôshi W.S.—B.M. 3962—B.M.J. 3981—B.M. 3825.

Pref.	No.	B.M.	Date 1952	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	2.28 × $\sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
11	1380	3825	I 31	12 20	0 00	3389	3101	65	20	−1	0	0	80592	33
〃	1381	3827	〃	12 33	13	3246	2970	76	23	2	0	−125	80467	〃
〃	1382	3829	〃	12 51	31	2823	2583	82	25	2	1	− 511	80081	〃
〃	1383	3831	〃	13 04	44	2050	1876	72	22	2	2	−1222	79370	〃
〃	1384	3833	〃	13 17	57	0808	0739	61	19	2	2	−2362	78230	〃
〃	〃	〃	II 4	10 05		3803	3480	60	19	−5				34
〃	1438	3936	〃	10 49	1 41	3691	3377	65	20	−6	4	−2467	78125	〃
〃	1439	3938	〃	11 21	2 13	4384	4011	54	17	−6	5	−1837	78755	〃
〃	1440	3940	〃	11 33	2 25	5605	5129	62	19	−5	5	− 716	79876	〃
〃	1441	3942	〃	11 49	2 41	6776	6200	51	16	−5	6	351	80943	〃
〃	〃	〃	〃	11 53		1413	1293	〃	〃	−5				〃
〃	1442	3944	〃	12 07	2 55	2648	2423	68	21	−5	7	1485	82077	〃
〃	1443	3946	〃	12 24	3 12	3660	3349	59	18	−5	7	2408	83000	〃
〃	1444	3948	〃	12 38	3 26	4756	4352	33	10	−4	8	3403	83995	〃
〃	1445	3949	〃	12 50	3 38	5323	4871	67	21	−4	8	3933	84525	〃
〃	1446	3951	〃	13 53	4 41	5857	5359	60	19	−3	11	4417	85009	〃
〃	1447	3953	〃	14 05	4 53	6306	5770	48	15	−3	11	4824	85416	〃
〃	1448	3955	〃	14 22	5 10	7118	6513	70	22	−3	12	5573	86165	〃
〃	〃	〃	〃	14 26		2315	2118	〃	〃	−3				〃
〃	1449	3957	〃	15 02	5 46	2830	2589	45	14	0	13	6038	86630	〃
〃	1450	3959	〃	15 51	6 35	2065	1889	45	14	3	15	5339	85931	〃
〃	1451	3964	〃	16 18	7 02	4590	4200	21	6	3	16	7641	88233	〃
〃	1452	3962	〃	16 30	7 14	4347	3978	69	19	3	16	7432	88024	〃
〃	Chôshi		〃	18 17	9 01	4604	4213	27	8	8	20	7657	88249	35
〃	〃		II 5	9 18		4724	4322	〃	〃	−4				〃

〃		Chôshi	*	〃	10 44	10 27	4908	4491	79	24	−5	24	7837	88429	〃
〃	1453	Chôshi W.S.	**	〃	13 00	12 43	4188	3832	4	1	−6	29	7149	87741	〃
〃	1452		3962	〃	14 09	13 52	4458	4079	60	19	−5	32	7412	88004	〃
〃	1454		3966	〃	14 27	14 10	4525	4140	65	20	−5	32	7474	88056	〃
〃	1455		3967	〃	16 11	15 54	4499	4117	47	15	−1	36	7446	88038	〃
〃	1456		3969	〃	16 26	16 09	5263	4816	57	18	−1	37	8147	88739	〃
〃	1457		3971	〃	16 37	16 20	6491	5939	68	21	3	37	9277	89869	〃
〃	1458		3973	〃	16 47	16 30	6741	6168	58	18	3	38	9502	90094	〃
〃	〃		〃	〃	16 51		1480	1354	〃	〃	3				〃
〃	1459		3974	〃	17 00	16 39	1668	1526	63	19	3	38	9675	90267	〃
〃	1460		3975	〃	17 11	16 50	1514	1385	48	15	3	38	9530	90122	〃
〃	1461		3977	〃	17 21	17 00	0750	0686	56	17	3	39	8832	89424	〃
〃	〃		〃	〃	17 25		3549	3247	〃	〃	3				〃
〃	1462		3979	〃	17 45	17 20	3960	3623	69	21	7	39	9216	89808	〃
〃	1463	J.	3981	〃	18 03	17 38	4541	4155	64	20	7	40	9746	90338	〃
〃	〃		〃	II 6	10 43		4643	4248	61	19	−5				〃
〃	1467		3983	〃	10 55	17 50	4252	3891	75	23	−5	41	9392	89984	〃
〃	1468		3985	〃	11 06	18 01	3634	3325	24	7	−5	41	8810	89402	〃
〃	1469		3987	〃	11 20	18 15	4126	3775	68	21	−5	42	9273	89865	〃
〃	1470		3989	〃	11 33	18 28	3030	2772	67	21	−5	42	8270	88862	〃
〃	1471		3991	〃	11 45	18 40	1919	1756	62	19	−5	43	7251	87843	〃
〃	1472		3993	〃	11 58	18 53	1634	1495	74	23	−5	43	6994	87586	〃
〃	1473		3994	〃	12 16	19 11	0487	0446	89	27	−5	44	5948	86540	〃
〃		Narita	***	〃	12 37	19 32	0295	0270	—	—	−6	44	5744	86336	〃
〃			〃	〃	12 41		5467	5002	—	—	−6				〃
〃	1474		3996	〃	13 37	20 28	5196	4754	72	22	−6	47	5515	86107	〃
〃	1475		3998	〃	13 49	20 40	3879	3549	76	23	−6	47	4311	84903	〃
〃	1476		4000	〃	14 02	20 53	2831	2590	84	26	−6	48	3354	83946	〃
〃	1477		4002	〃	14 21	21 12	2755	2521	62	19	−6	48	3278	83870	〃
〃	1478		4004	〃	14 33	21 24	1976	1808	75	23	−6	49	2568	83160	〃

* Yamasa Shôyu Co.

** Weather Station Bench Mark.

*** Front of the Narita Doboku Branch Office.

Table VI. (Continued).

Pref.	No.	B.M.	Date 1952	Time	$\Sigma\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	2.28 × $\Sigma\delta T$ Drift	$\Sigma\delta g$	g 979.	Field Note No.
				h m	h m									
11	1479	4006	II 6	14 48	21 39	0972	0889	64	20	−6	49	1646	82238	35
〃	〃	〃	〃	14 54		3473	3178	〃	〃	−6				〃
〃	1480	4008	〃	15 07	21 52	2917	2669	49	15	−6	50	1131	81723	〃
〃	1481	4010	〃	15 20	22 05	1842	1685	85	26	−6	50	158	80750	〃
〃	1380	3825	〃	15 40	22 25	1673	1531	67	21	−4	51	0	80592	〃

Route 31_5 B.M.J. 3981—B.M. 4016—B.M.J. 3981.

Pref.	No.	B.M.	Date 1952	Time	$\Sigma\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	−0.63 × $\Sigma\delta T$ Drift	$\Sigma\delta g$	g 979.	Field Note No.
				h m	h m									
11	1463	J. 3981	II 6	9 09	0 00	4643	4248	61	19	−4	0	0	90338	35
〃	1464	4013	〃	9 22	13	5560	5087	39	12	−4	0	832	91170	〃
〃	1465	4015	〃	9 37	28	6109	5590	26	8	−4	0	1331	91669	〃
〃	1466	4016	〃	9 49	40	6028	5516	76	23	−4	0	1272	91610	〃
〃	1463	J. 3981	〃	10 43	1 34	4643	4248	61	19	−5	−1	0	90338	〃

Route 31_6 B.M.J. 3981—B.M.J. 4033.

Pref.	No.	B.M.	Date 1952	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	−0.67 × $\sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
11	1463	J. 3981	III 12	11 37	0 00	0639	0585	63	19	8	0	0	90338	37
7	1530	4017	〃	12 18	41	2066	1890	80	25	8	− 5	1316	91654	〃
〃	1531	4018	〃	12 29	52	2427	2221	71	22	8	− 6	1645	91983	〃
〃	1532	4020	〃	12 54	1 17	3174	2904	99	31	6	− 9	2338	92676	〃
〃	1533	4022	〃	13 05	1 28	5012	4586	53	16	6	−10	4006	94314	〃
〃	1534	4025	〃	13 30	1 53	5302	4851	37	11	6	−13	4269	94607	〃
〃	1535	4027	〃	13 56	2 19	5990	5481	93	29	3	−15	4916	95254	〃
〃	1536	4029	〃	14 11	2 34	6606	6044	57	18	3	−17	5470	95808	〃
〃	〃	〃	〃	14 17		0778	0712	〃	〃	3				〃
〃	1537	4031	〃	14 29	2 46	1450	1327	65	20	3	−19	6089	96427	〃
〃	1538	J. 4033	〃	14 44	3 01	2159	1975	65	20	−2	−20	6733	97071	〃

Route 31_7 B.M. 4041—Kakioka M.O.—B.M. 4041—Ishioka—B.M. 4041.

Pref.	No.	B.M.	Date 1952	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	7.50 × $\sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
7	1542	4041	III 12	16 43	0 00	3335	3052	88	27	−7	0	0	98162	37
〃	1543	Kakioka M.O. *	〃	17 15	32	3295	3015	27	8	−7	4	− 60	98102	〃
〃	1544	〃 **	〃	17 28	45	3261	2984	27	8	−7	6	− 93	98069	〃
〃	1545	〃 △ ***	〃	17 38	55	3200	2928	—	—	−9	7	−160	98002	〃
〃	1542	4041	〃	18 18	1 35	3341	3057	88	27	−9	12	− 9	98153	〃
〃	Ishioka		〃	18 25	1 42	3389	3101	27	8	−9	13	15	98177	〃
〃	〃		III 13	9 42		3458	3164	〃	〃	4				〃
〃	1542	4041	〃	9 57	1 57	3423	3132	88	27	4	15	0	98162	〃

* Magnetic Observatory, Seismometer Room, on the surface of the concrete block for seismometer installation.
** Magnetic Observatory, Nagaoka Room, on the concrete block.
*** Magnetic Observatory, 4th order triangulation point.

Route 31_8 B.M. 4152—Mito W.S.—B.M. 4043.

Pref.	No.	B.M.	Date 1952	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	$1.11 \times \sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
7	1553	4152	III 13	11 59	0 00	2451	2243	53	16	10	0	0	97280	37
〃	1554	Mito P.O *	〃	12 30	31	2378	2176	27	8	10	1	−76	97204	〃
〃	1555	Mito W.S **	〃	14 06	2 07	2558	2341	46	14	7	2	91	97371	〃
〃	1556	〃 ***	〃	14 29	2 30	2542	2326	27	8	7	3	69	97349	〃
〃	1546	4043	〃	15 33	3 34	3950	3614	58	18	−2	4	1357	98637	〃

* Mito Prefecture Office.
** Weather Station Bench Mark.
*** Weather Station Seismometer Room, on the surface of the concrete block for seismometer installation.

Route 31_9 B.M. 4152—B.M. 4187—B.M. 4152.

Pref.	No.	B.M.	Date 1953	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	$3.82 \times \sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
7	3517	4152	III 6	9 04	0 00	3666	3354	49	15	−6	0	0	97280	68
〃	3518	4154	〃	9 17	13	4000	3660	43	13	−6	1	303	97583	〃
〃	3519	4157	〃	9 42	38	3322	3040	39	12	−4	2	− 317	96963	〃
〃	3520	4159	〃	9 52	48	3793	3471	66	20	−4	3	121	97401	〃
〃	3521	4161	〃	10 14	1 10	5702	5217	51	16	−4	5	1861	99141	〃
													980.	
〃	$3522._1$	4162	〃	10 32	1 28	7469	6834	50	15	0	6	3480	00760	〃
〃	$3522._2$	〃	〃	10 35		0288	0264	〃	〃	0				〃
〃	3523	4163	〃	10 40	1 33	2303	2107	66	20	0	6	5328	02608	〃
〃	3524	4165	〃	11 04	1 57	2434	2227	72	22	0	8	5448	02728	〃
〃	3525	4167	〃	11 15	2 08	2319	2122	55	17	0	8	5338	02618	〃
〃	3526	4169	〃	11 34	2 27	2615	2393	71	22	3	10	5615	02895	〃
〃	3527	4170	〃	11 42	2 35	2434	2227	51	16	3	10	5443	02723	〃
〃	3528	4172	〃	11 52	2 45	2508	2295	58	18	3	11	5512	02792	〃
〃	3529	4174	〃	12 03	2 56	1123	1028	45	14	3	11	4241	01521	〃
〃	3530	4176	〃	12 13	3 06	1333	1220	56	17	3	12	4435	01715	〃

〃	3531	4178	〃	12 29	3 22	1277	1168	36	11	3	13	4376	01656	〃
〃	3532	4180	〃	12 39	3 32	1478	1352	52	16	7	13	4569	01849	〃
〃	3533	4183	〃	13 05	3 58	1959	1792	57	18	7	15	5009	02289	〃
〃	3534	4185	〃	13 17	4 10	2418	2212	24	7	7	16	5417	02697	〃
6	3535.1	4187	〃	13 32	4 25	2805	2567	66	20	9	17	5786	03066	〃
〃	3535.2	〃	〃	13 37		7397	6768	〃	〃	9			979.	〃
7	3536	4152	〃	16 01	6 49	1089	0996	47	15	9	26	0	97280	〃

Table VII. Results along the Route 32_1. (0.01 mgal.).

Route 32_1 B.M.J. 10—B.M. 6656—B.M.J. 10.

Pref.	No.	B.M.	Date 1953	Time	$\Sigma\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	12.35 × $\Sigma\delta T$ Drift	$\Sigma\delta g$	g 979.	Field Note No.
				h m	h m									
6	4119	J. 10	VII 31	13 42	0 00	5918	5415	66	20	5	0	0	84678	76
〃	4120	6667	〃	14 35	53	4822	4412	57	17	4	11	−1018	83660	〃
〃	4121.1	6654	〃	14 51	1 09	1768	1618	51	16	4	15	−3817	80861	〃
〃	4121.2	〃	〃	14 54		7748	7089	〃	〃	4				〃
〃	4122	6662	〃	15 18	1 33	5351	4896	58	18	4	20	−6013	78665	〃
8	4123	6658	〃	15 42	1 57	5472	5007	63	19	3	25	−5907	78771	〃
〃	4124.1	6656	〃	16 03	2 18	6868	6284	66	20	3	28	−4632	80046	〃
〃	4124.2	〃	〃	16 08		0137	0125	〃	〃	3				〃
6	4125	J. 10	〃	17 14	3 24	5218	4774	64	20	0	42	0	84678	〃

Table VIII. Results along the Route 33_4. (0.01 mgal.).

Route 33_4 B.M. 547—B.M. 10823—B.M.L.6—B.M.10823—B.M.L.6—B.M.K.18—B.M.L.6—B.M. 3665—B.M.3672—B.M. 10824—B.M.547.

Pref.	No.	B.M.	Date 1953	Time	$\sum\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	10.00 × $\sum\delta T$ Drift	$\sum\delta g$	g 979.	Field Note No.
				h m	h m									
19	4255.$_2$	547	VIII 31	14 14	0 00	7504	6866	49	15	−4	0	0	64122	78
〃	4256	S. 14 *	〃	14 29	15	7174	6564	42	13	−4	3	− 307	63815	〃
〃	4257.$_1$	S. 16 *	〃	14 49	35	1893	1732	61	19	−4	6	− 5136	58986	〃
〃	4257.$_2$	〃	〃	14 53		7256	6639	〃	〃	−5				〃
〃	4258	10823	〃	15 08	50	2045	1871	55	17	−5	8	− 9908	54214	〃
9	4259	S. 31 *	〃	15 28	1 10	1982	1814	69	21	−5	12	− 9965	54157	〃
〃	4260	S. 35 *	〃	15 45	1 27	4030	3687	62	19	−5	15	− 8097	56025	〃
〃	4261.$_1$	L. 1 *	〃	15 56	1 38	6916	6328	53	16	−5	16	− 5460	58662	〃
〃	4261.$_2$	〃	〃	15 59		0751	0687	〃	〃	−5				〃
〃	4262	L. 2 *	〃	16 05	1 44	2199	2012	64	20	−5	17	− 4132	59990	〃
〃	4263	L. 3 *	〃	16 21	2 00	2596	2375	49	15	−5	20	− 3777	60345	〃
〃	4264	L. 4 *	〃	16 33	2 12	2926	2677	53	16	−5	22	− 3476	60646	〃
〃	4265	L. 5 *	〃	16 47	2 26	4813	4404	51	16	−5	24	− 1751	62371	〃
〃	4266	L. 6 *	〃	16 56	2 35	6189	5663	56	17	−5	26	− 493	63629	〃
〃	4267.$_1$	L. 2 *	〃	17 44	3 23	2223	2034	62	19	−5	34	− 4128	59994	〃
〃	4267.$_2$	〃	〃	17 49		7518	6879	〃	〃	−5				〃
〃	4268	S. 33 *	〃	18 03	3 37	2492	2280	53	16	−5	36	− 8732	55390	〃
19	4269	10823	〃	18 17	3 51	1226	1122	59	18	−5	39	− 9391	54231	〃
〃	4270	〃	IX 1	9 33		1359	1243	55	17	3				〃
9	4271.$_1$	L. 2 *	〃	10 00	4 18	7659	7008	60	19	3	43	− 4128	59994	79
〃	4271.$_2$	〃	〃	10 04		3909	3577	〃	〃	3				〃
〃	4272	L. 6 *	〃	12 32	6 46	7913	7240	55	17	−3	68	− 498	63624	〃
〃	4273	L. 8 *	〃	12 53	7 07	4659	4263	48	15	−3	71	− 3480	60642	〃
〃	4274	L. 9 *	〃	13 09	7 23	2955	2704	57	18	−3	74	− 5039	59083	〃
〃	4275.$_1$	L. 10 *	〃	13 28	7 42	0737	0674	35	11	−3	77	− 7079	57043	〃
〃	4275.$_2$	〃	〃	13 31		7807	7143	〃	〃	−4				〃
〃	4276	L. 11 *	〃	13 45	7 56	5692	5208	53	16	−4	79	− 9011	55111	〃
〃	4277	K. 18 *	〃	14 30	8 41	1768	1618	27	8	−5	87	−12618	51504	〃
〃	4278.$_1$	L. 10 *	〃	15 16	9 27	7826	7161	35	11	−5	95	− 7080	57042	〃
〃	4278.$_2$	〃	〃	15 20		0056	0051	〃	〃	−5				〃

〃	4279.1	L. 6 *	〃	15 57	10 04	7252	6636	56	17	−5	101	−495	63627	〃
〃	4279.2	〃	〃	16 00		0472	0432	〃	〃	−5				〃
19	4280.1	**	〃	17 19	11 23	5772	5281	—	—	−6	114	4323	68445	〃
〃	4280.2	〃	〃	17 21		0068	0062	—	—	−6				〃
〃	4281.1	***	〃	17 49	11 51	5384	4926	—	—	−5	119	9183	73305	〃
〃	4281.2	〃	〃	17 51		0472	0432	—	—	−5				〃
〃	4282	3665	〃	18 52	12 52	5851	5354	64	20	−4	129	14116	78238	〃
〃	4303	〃	IX 3	8 36		5411	4951	68	21	11				〃
〃	4309	3667	〃	8 49	13 05	4680	4282	59	18	11	131	13442	77564	〃
〃	4310	3669	〃	9 02	13 18	3388	3100	49	15	11	133	12255	76377	〃
〃	4311	3671	〃	9 15	13 31	2265	2072	48	15	11	135	11225	75347	〃
〃	4312	3672	〃	9 25	13 41	1645	1505	57	18	11	137	10659	74781	〃
〃	4313.1	****	〃	10 10	14 26	0212	0194	—	—	10	144	9322	73444	〃
〃	4313.2		〃	10 15		7552	6910	—	—	10				〃
〃	4314.1	10824	〃	11 10	15 21	0740	0677	54	17	7	154	3093	67215	〃
〃	4314.2	〃	〃	11 14		6087	5570	〃	〃	7				〃
〃	4315	10825	〃	11 25	15 32	5923	5420	51	16	7	155	2941	67063	〃
〃	4316	10827	〃	11 43	15 50	5408	4948	63	19	3	158	2465	66587	〃
〃	4317	549	〃	12 11	16 18	1862	1704	52	16	3	163	−787	63335	〃
〃	4318	547	〃	12 27	16 34	2725	2493	56	17	3	166	0	64122	〃

* Earthquake Research Institute Bench Marks.

** Height Mark, near Yunotaira Bridge.

*** Height Mark.

**** Front of the Kamikawa village office.

Table IX. Results along the Route 36_1. (0.01 mgal.).

Route 36_1 B.A.R.—(No.4616)—B.M. $116._1$—B.M. $110._7$—B.M. 10585—B.M. 10367—B.M. $116._1$—(No.4634)—B.A.R.

Pref.	No.	B.M.	Date 1953	Time	$\Sigma\delta T$	SD	0.9150 × SD	h (cm)	0.3086 × h	$E.T.$	5.89 × $\Sigma\delta T$ Drift	Adjustment	$\Sigma\delta g$	g 979.	Field Note No.
				h m	h m										
12	4611	B. A. R.	X 15	9 14	0 00	6147	5625	27	8	−1	0	0	0	80100	84
〃	4612	15	〃	10 01	47	3721	3405	60	19	−3	5	40	−2256	77844	〃
〃	4613	$123._1$	〃	10 20	1 06	2848	2606	51	16	−3	6	54	−3073	77027	〃
〃	4614	$122._1$	〃	10 45	1 31	2507	2294	83	26	−4	9	60	−3385	76715	〃
〃	4615	$121._1$	〃	11 09	1 55	2526	2311	105	32	−4	11	59	−3363	76737	〃
〃	4616	*	〃	11 28	2 14	2402	2198	27	8	−4	13	62	−3505	76595	〃
〃	4617	〃	〃	11 45		2406	2201	〃	〃	−5					〃
〃	4618	$120._1$	〃	12 06	2 35	2655	2429	56	17	−5	15	58	−3266	76834	〃
〃	4619	$119._1$	〃	12 21	2 50	2848	2606	50	15	−5	16	54	−3088	77012	〃
〃	4620	$118._1$	〃	12 34	3 03	3658	3347	55	17	−5	18	41	−2334	77766	〃
〃	4621	$117._1$	〃	12 48	3 17	4407	4032	62	19	−5	19	29	−1636	78464	〃
〃	4622	$116._1$	〃	13 01	3 30	4295	3930	57	18	−5	21	31	−1743	78357	〃
〃	4623	115	〃	13 57	4 26	5098	4665	92	28	−4	26	17	− 988	79112	〃
〃	4624	$110._9$	〃	14 11	4 40	4710	4310	50	15	−4	28	24	−1365	78735	〃
〃	4625	$110._7$	〃	15 35	6 04	2598	2377	35	11	−4	36	59	−3345	76755	〃
〃	4626	10372	〃	16 45	7 14	5477	5011	48	15	−5	42	12	− 667	79433	〃
〃	4627	10581	〃	17 51	8 20	6514	5960	54	17	−4	49	− 5	295	80395	〃
〃	4628	10583	〃	18 08	8 37	6832	6251	52	16	−4	51	−10	588	80688	〃
10	4629	10585	〃	18 21	8 50	6444	5896	61	19	−4	52	− 4	229	80329	〃
12	4630	10370	〃	19 13	9 42	4223	3864	46	14	−4	57	33	−1850	78250	〃
〃	4631	10368	〃	19 32	10 01	2525	2310	48	15	−4	59	61	−3433	76667	〃
13	4632	10367	〃	20 00	10 29	2855	2612	62	19	−4	62	55	−3124	76976	〃
12	4633	$116._1$	〃	20 20	10 49	4352	3982	62	19	−4	64	31	−1732	78368	〃
〃	4634	*	〃	21 19	11 48	2462	2253	27	8	−4	70	62	−3509	76591	〃
〃	4635	B. A. R.	〃	22 22	12 51	6235	5705	27	8	−3	76	0	0	80100	〃

* Meridian circle, Astoronomical Observatory.

(7) Ibaraki Prefecture

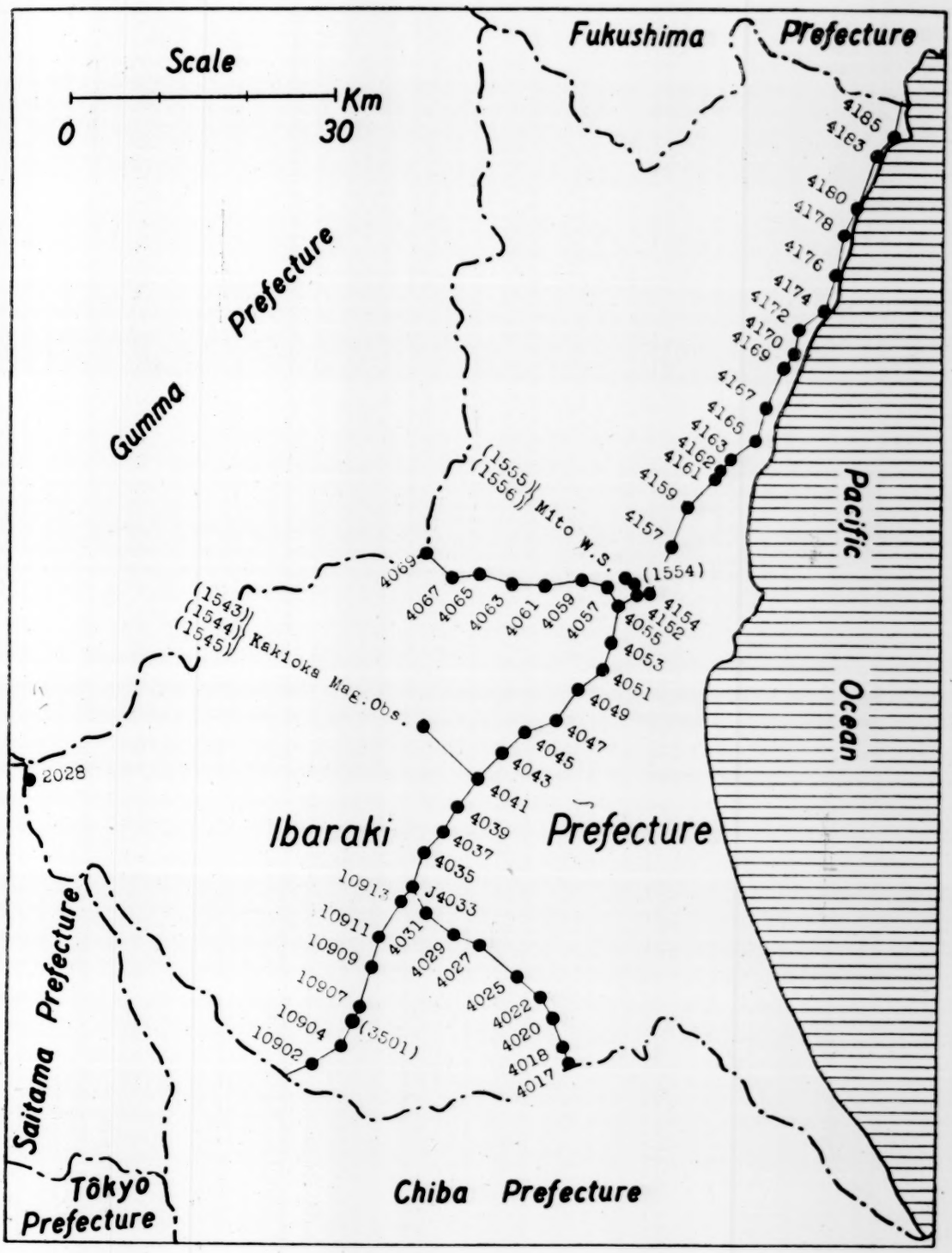

Fig. 7. Gravity Stations in Ibaraki Prefecture.

Table X. Synoptic Results for Ibaraki Prefecture (I)

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1953	980.	980.	980.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		36° ′	140°′											
4185	3534	49.9	47.3	4.27	III 6	02697	0283	0278	8872	141.1	140.6	8924	125.9	125.4
4183	3533	48.4	46.0	5.45	〃	02289	0246	0240	8850	139.6	139.0	9003	124.3	123.7
4180	3532	45.5	44.4	5.21	〃	01849	0201	0195	8808	139.3	138.7	8961	124.0	123.4
4178	3531	43.6	43.4	6.45	〃	01656	0186	0178	8781	140.5	139.7	8933	125.3	124.5
4176	3530	41.5	43.1	3.28	〃	01715	0182	0178	8750	143.2	142.8	8903	127.9	127.5
4174	3529	39.3	42.7	7.61	〃	01521	0176	0167	8719	145.7	144.8	8872	130.4	129.5
4172	3528	38.2	40.7	37.44	〃	02792	0395	0353	8703	169.2	165.0	8856	153.9	149.7
4170	3527	36.2	39.8	56.26	〃	02723	0446	0383	8674	177.2	170.9	8827	161.9	155.6
4169	3526	35.4	39.1	43.54	〃	02895	0424	0375	8662	176.2	171.3	8815	160.9	156.0
4167	3525	33.2	38.3	30.47	〃	02618	0356	0322	8631	172.5	169.1	8784	157.2	153.8
4165	3524	31.3	37.3	46.20	〃	02728	0415	0364	8603	181.2	176.1	8756	165.9	160.8
4163	3523	30.6	35.5	4.51	〃	02608	0275	0270	8593	168.2	167.7	8746	152.9	152.4
4162	3522	29.8	34.5	5.64	〃	00760	0093	0087	8582	151.1	150.5	8735	135.8	135.2
						979.	979.	979.						
4161	3521	28.9	34.0	22.33	〃	99141	9983	9958	8569	141.4	138.9	8722	126.1	123.6
4159	3520	27.2	32.2	32.20	〃	97401	9840	9804	8544	129.6	126.0	8698	114.2	110.6
4157	3519	25.2	31.3	31.66	〃	96963	9794	9759	8515	127.9	124.4	8669	112.5	109.0
4154	3518	22.3	29.9	5.85	〃	97583	9776	9770	8474	130.2	129.6	8627	114.9	114.3
4152	3517	22.3	28.6	27.99	〃	97280	9814	9783	8474	134.0	130.9	8627	118.7	115.6
					1952									
Mito W. S. *	1555	22.7	28.4	29.19	III 13	97371	9827	9795	8480	134.7	131.5	8633	119.4	116.2
〃 **	1556	〃	〃	29.93	〃	97349	9827	9794	〃	134.7	131.4	〃	119.4	116.1
4055	1552	21.6	27.2	30.02	〃	97610	9854	9820	8464	139.0	135.6	8617	123.7	120.3
4053	1551	19.5	26.6	30.65	〃	97614	9856	9822	8433	142.3	138.9	8587	126.9	123.5
4051	1550	17.6	25.8	6.98	〃	98538	9875	9868	8406	146.9	146.2	8560	131.5	130.8
4049	1549	16.2	24.0	28.37	〃	98291	9917	9885	8386	153.1	149.9	8540	137.7	134.5
4047	1548	14.6	22.6	27.86	〃	98544	9940	9909	8363	157.7	154.6	8517	142.3	139.2

* Weather Station Bench Mark.

** Weather Station Seismometer Room, on the surface of the concrete block for seismometer installation.

4045	1547	14.0	20.2	28.06	〃	98868	9973	9942	8354	161.9	158.8	8508	146.5	143.4
4043	1546	12.7	18.3	23.31	〃	98637	9936	9910	8336	160.0	157.4	8490	144.6	142.0
4041	1542	11.3	16.7	23.88	III 12	98162	9890	9863	8316	157.4	154.7	8470	142.0	139.3
〃	〃	〃	〃	〃	〃	98153	9889	9862	〃	157.3	154.6	〃	141.9	139.2
4039	1541	09.7	15.0	23.15	〃	97928	9864	9838	8293	157.1	154.5	8447	141.7	139.1
4037	1540	07.9	14.1	26.17	〃	97415	9822	9793	8267	155.5	152.6	8421	140.1	137.2
4035	1539	06.3	12.6	25.71	〃	97080	9787	9759	8244	154.3	151.5	8398	138.9	136.1
J.4033	1538	04.6	11.8	2.16	〃	97071	9714	9711	8220	149.4	149.1	8374	134.0	133.7
4031	1537	02.9	13.2	3.29	〃	96427	9653	9649	8195	145.8	145.4	8349	130.4	130.0
4029	1536	01.9	14.9	5.52	〃	95808	9598	9592	8181	141.7	141.1	8335	126.3	125.7
4027	1535	01.3	17.5	2.25	〃	95254	9532	9530	8172	136.0	135.8	8326	120.6	120.4
		35°												
4025	1534	59.9	18.9	22.23	〃	94607	9529	9504	8152	137.7	135.2	8306	122.3	119.8
4022	1533	58.3	21.4	2.42	〃	94344	9442	9439	8129	131.3	131.0	8284	115.8	115.5
4020	1532	56.9	22.9	26.89	〃	92676	9351	9321	8109	124.2	121.2	8264	108.7	105.7
4018	1531	55.3	23.3	1.57	〃	91983	9203	9201	8086	111.7	111.5	8241	96.2	96.0
4017	1530	54.5	23.7	2.98	〃	91654	9175	9171	8075	110.0	109.6	8229	94.6	94.2

Synoptic Results for Ibaraki Prefecture (II).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	Helmert Formula of 1901			International Formula		
				(m)	1953	979.	980.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		36° ′	140°′											
4069	3514	24.3	12.8	102.97	III 5	97305	0048	9933	8503	154.5	143.0	8656	139.2	127.7
							979.							
4067	3513	23.2	14.6	53.24	〃	98310	9995	9936	8487	150.8	144.9	8640	135.5	129.6
							980.							
4065	3512	23.4	16.6	58.96	〃	98470	0029	9963	8490	153.9	147.3	8643	138.6	132.0
4063	3511	22.7	18.8	70.45	〃	98200	0037	9959	8480	155.7	147.9	8633	140.4	132.6
4061	3510	22.6	21.3	42.60	〃	99147	0046	9999	8478	156.8	152.1	8632	141.4	136.7

Table X. (Continued)

B.M.	No.	φ	λ	H (m)	Date 1953	g 979.	g_0 979.	g_0'' 979.	HELMERT Formula of 1901 γ_0 979.	HELMERT Formula of 1901 Δg_0 (mgal.)	HELMERT Formula of 1901 $\Delta g_0''$ (mgal.)	International Formula γ_0 979.	International Formula Δg_0 (mgal.)	International Formula $\Delta g_0''$ (mgal.)
		36° ′	140°′											
4059	3509	22.9	23.7	36.73	III 5	98813	9995	9954	8482	151.3	147.2	8636	135.9	131.8
4057	3508	22.9	26.5	17.57	〃	98200	9874	9855	8482	139.2	137.3	8636	123.8	121.9

Synoptic Results for Ibaraki Prefecture (III).

B.M.	No.	φ	λ	H (m)	Date 1952	g 979.	g_0 979.	g_0'' 979.	HELMERT Formula of 1901 γ_0 979.	HELMERT Formula of 1901 Δg_0 (mgal.)	HELMERT Formula of 1901 $\Delta g_0''$ (mgal.)	International Formula γ_0 979.	International Formula Δg_0 (mgal.)	International Formula $\Delta g_0''$ (mgal.)
		36° ′	140°′											
Kakioka M. O. *	1543	13.5	11.3	27.17	III 12	98102	9894	9864	8347	154.7	151.7	8501	139.3	136.3
〃 **	1544	〃	〃	30.76	〃	98059	9902	9867	〃	155.5	152.0	〃	140.1	136.6
〃 △ ***	1545	〃	〃	32.13	〃	98002	9899	9863	〃	155.2	151.6	〃	139.8	136.2

* Magnetic Observatory, Seismometer Room, on the surface of the concrete block for seismometer installation.
** Magnetic Observatory, Nagaoka Room, on the concrete block.
*** Magnetic Observatory, 4th order triangulation point.

Synoptic Results for Ibaraki Prefecture (IV).

B.M.	No.	φ	λ	H (m)	Date 1953	g 979.	g_0 979.	g_0'' 979.	HELMERT Formula of 1901 γ_0 979.	HELMERT Formula of 1901 Δg_0 (mgal.)	HELMERT Formula of 1901 $\Delta g_0''$ (mgal.)	International Formula γ_0 979.	International Formula Δg_0 (mgal.)	International Formula $\Delta g_0''$ (mgal.)
		36° ′	140°′											
10913	3505	03.8	11.3	23.73	III 5	96336	9707	9680	8208	149.9	147.2	8362	134.5	131.8
10911	3504	02.0	10.0	22.86	〃	96248	9695	9670	8182	151.3	148.8	8336	135.9	133.4
		35°												
10909	3503	59.7	09.4	19.04	〃	95733	9632	9611	8149	148.3	146.2	8304	132.8	130.7
10907	3502	57.9	08.5	22.68	〃	93114	9381	9356	8124	125.7	123.2	8278	110.3	107.8
10904	3500	55.2	07.2	6.22	〃	91100	9129	9122	8085	104.4	103.7	8239	89.0	88.3
10902	3499	53.9	05.3	5.44	〃	90106	9027	9021	8066	96.1	95.5	8221	80.6	80.0

Synoptic Results for Ibaraki Prefecture (V).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1953	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_J''$ (mgal.)
		36° ′	139°′											
2028	3556	11.0	42.5	19.18	III 11	91227	9182	9160	8311	87.1	84.9	8465	71.7	69.5

(8) Tochigi Prefecture

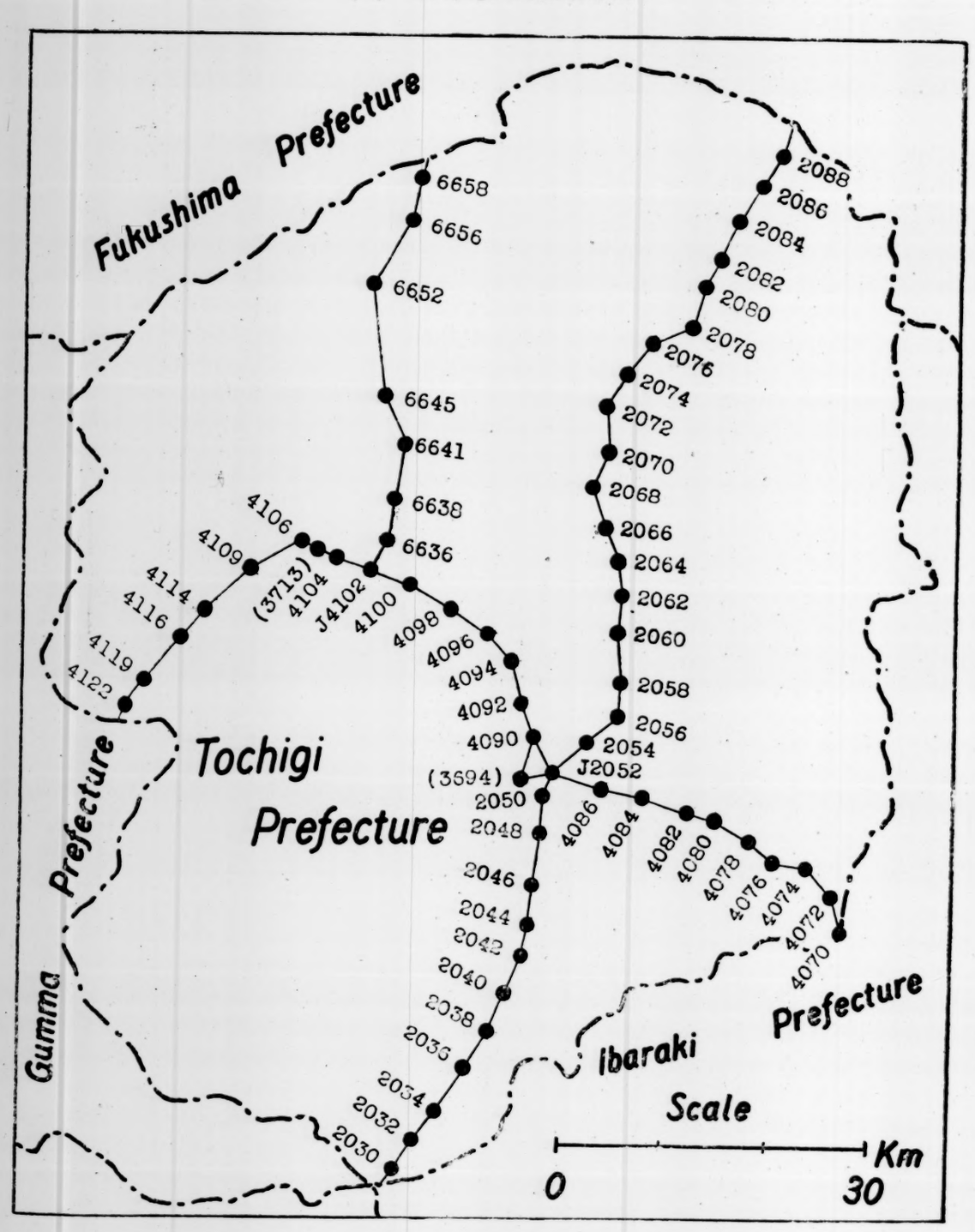

Fig. 8. Gravity Stations in Tochigi Prefecture.

Table XI. Synoptic Results for Tochigi Prefecture (I).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1953	979.	980.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		37° ′	140°′											
2088	3597	04.2	07.8	408.95	III 12	89827	0245	9787	9079	116.6	70.8	9231	101.4	55.6
2086	3600	02.6	06.3	372.98	〃	90637	0215	9797	9055	116.0	74.2	9208	100.7	58.9
〃	3596	〃	〃	〃	〃	90636	0215	9797	〃	116.0	74.2	〃	100.7	58.9
2084	3595	00.8	05.1	339.95	〃	91059	0155	9775	9029	112.6	74.6	9182	97.3	59.3
		36°												
2082	3601	59.3	04.0	312.22	〃	90750	0039	9689	9008	103.1	68.1	9160	87.9	52.9
〃	3594	〃	〃	〃	〃	90748	0038	9689	〃	103.0	68.1	〃	87.8	52.9
							979.							
2080	3593	57.4	03.1	290.32	〃	89507	9847	9522	8980	86.7	54.2	9133	71.4	38.9
2078	3592	55.6	01.7	267.81	〃	89052	9732	9432	8954	77.8	47.8	9107	62.5	32.5
			139°											
2076	3591	54.3	59.5	261.90	〃	88431	9651	9358	8935	71.6	42.3	9088	56.3	27.0
2074	3590	52.8	58.2	254.37	〃	88316	9617	9332	8914	70.3	41.8	9066	55.1	26.6
2072	3589	51.2	56.8	241.84	〃	88762	9623	9352	8890	73.3	46.2	9043	58.0	30.9
2070	3588	49.2	56.9	216.89	〃	89448	9614	9371	8862	75.2	50.9	9014	60.0	35.7
2068	3587	47.6	55.8	187.28	〃	90564	9634	9425	8838	79.6	58.7	8991	64.3	43.4
2066	3586	45.7	56.5	186.72	〃	90734	9650	9441	8811	83.9	63.0	8964	68.6	47.7
2064	3585	43.7	57.2	171.46	〃	90897	9619	9427	8782	83.7	64.5	8935	68.4	49.2
2062	3584	41.5	57.9	167.53	〃	91263	9643	9456	8750	89.3	70.6	8903	74.0	55.3
2060	3583	39.6	57.7	165.28	〃	91620	9672	9487	8723	94.9	76.4	8876	79.6	61.1
2058	3582	37.6	58.5	137.68	〃	92621	9687	9533	8694	99.3	83.9	8847	84.0	68.6
2056	3581	35.9	57.7	128.65	〃	93628	9760	9616	8670	109.0	94.6	8823	93.7	79.3
2054	3580	34.6	55.6	126.05	〃	93754	9764	9623	8651	111.3	97.2	8804	96.0	81.9
J. 2052	3579	33.5	53.5	112.23	〃	94364	9783	9657	8635	114.8	102.2	8788	99.5	86.9
2050	3567	32.1	53.1	111.38	III 11	94969	9841	9716	8615	122.6	110.1	8768	107.3	94.8
2048	3566	29.9	52.7	93.29	〃	93877	9676	9571	8583	109.3	98.8	8736	94.0	83.5
2046	3565	27.8	52.3	79.17	〃	93835	9628	9539	8553	107.5	98.6	8706	92.2	83.3
2044	3564	25.8	52.0	66.90	〃	94161	9623	9548	8524	109.9	102.4	8677	94.6	87.1

Table XI. (Continued)

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1953	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		36° ′	139°′											
2042	3563	23.7	51.5	57.53	III 11	94034	9581	9517	8494	108.7	102.3	8647	93.4	87.0
2040	3562	21.7	50.3	48.65	〃	93759	9526	9472	8465	105.1	100.7	8619	90.7	85.3
2038	3561	19.8	49.2	41.82	〃	93757	9505	9458	8438	106.7	102.0	8591	91.4	86.7
2036	3560	17.9	48.0	35.11	〃	93692	9478	9438	8410	106.8	102.8	8564	91.4	87.4
2034	3559	16.1	46.5	29.75	〃	93678	9460	9426	8385	107.5	104.1	8538	92.2	88.8
2032	3558	14.6	44.7	24.70	〃	93463	9423	9395	8363	106.0	103.2	8517	90.6	87.8
2030	3557	13.0	43.0	24.61	〃	92260	9304	9274	8340	96.2	93.4	8494	80.8	78.0

Synoptic Results for Tochigi Prefecture (II).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1953	979.	980.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		37° ′	139°′											
6658	4123	02.9	44.0	761.98	VII 31	78771	0229	9376	9060	116.9	31.6	9212	101.7	16.4
6656	3708	00.9	44.0	696.16	IV 17	80046	0153	9374	9031	112.2	34.3	9183	97.0	19.1
		36°					979.							
6652	3707	57.7	41.6	608.54	〃	80961	9974	9293	8984	99.0	30.9	9137	83.7	15.6
6645	3705	52.3	42.3	494.78	〃	83431	9870	9316	8906	96.4	41.0	9059	81.1	25.7
6641	3704	49.7	43.4	393.26	〃	85514	9765	9325	8869	89.6	45.6	9021	74.4	30.4
6638	3703	46.7	43.0	331.41	〃	86633	9686	9315	8825	86.1	49.0	8978	70.8	33.7
6636	3702	44.8	42.8	345.47	〃	85609	9627	9240	8798	82.9	44.2	8951	67.6	28.9

Synoptic Results for Tochigi Prefecture (III).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1953	979.	980.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		36° ′	140°′											
4070	3515	24.9	12.0	193.59	III 5	95607	0158	9942	8511	164.7	143.1	8665	149.3	127.7
4072	3576	26.8	11.5	147.14	III 11	96909	0145	9980	8539	160.6	144.1	8692	145.3	128.8
								980.						
4074	3575	28.0	09.9	133.66	〃	97576	0170	0021	8556	161.4	146.5	8709	146.1	131.2
4076	3574	28.3	07.8	111.76	〃	98225	0167	0042	8560	160.7	148.2	8713	145.4	132.9
								979.						
4078	3573	29.4	06.1	81.12	〃	98265	0077	9986	8576	150.1	141.0	8729	134.8	125.7
							979.							
4080	3572	30.6	04.4	89.96	〃	96367	9914	9814	8593	132.1	122.1	8746	116.8	106.8
4082	3571	31.1	01.8	89.38	〃	95155	9791	9691	8600	119.1	109.1	8754	103.7	93.7
			139°											
4084	3570	31.8	59.6	114.82	〃	93742	9729	9600	8611	111.8	98.9	8764	96.5	83.6
4086	3569	32.4	56.8	103.10	〃	94388	9757	9642	8619	113.8	102.3	8772	98.5	87.0

Synoptic Results for Tochigi Prefecture (IV).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1953	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		36° ′	139°′											
Utsunomiya W.S. *	3694	32.8	52.3	119.80	IV 17	93969	9767	9633	8625	114.2	100.8	8778	98.9	85.5
4090	3695	35.0	52.2	144.30	〃	93022	9748	9586	8657	109.1	92.9	8810	93.8	77.6
4092	3696	37.1	51.4	169.46	〃	92609	9784	9594	8687	109.7	90.7	8840	94.4	75.4
4094	3697	39.2	50.7	201.45	〃	92040	9826	9600	8717	110.9	88.3	8870	95.6	73.0
4096	3698	40.3	48.5	237.35	〃	89846	9717	9452	8733	98.4	71.9	8886	83.1	56.6
4098	3699	41.3	46.2	281.92	〃	88233	9693	9378	8748	94.5	63.0	8900	79.3	47.8
4100	3700	42.7	43.8	336.99	〃	86122	9652	9275	8768	88.4	50.7	8921	73.1	35.4
J. 4102	3701	43.4	41.1	406.15	〃	84542	9708	9253	8778	93.0	47.5	8931	77.7	32.2
4104	3712	44.1	38.7	480.28	IV 18	82446	9727	9189	8788	93.9	40.1	8941	78.6	24.8
4106	3714	45.0	36.5	593.96	〃	79425	9776	9111	8801	97.5	31.0	8954	82.2	15.7

* Weather Station, stone mark made of Ôyaishi.

Table XI. (Continued)

B.M.	No.	φ	λ	H (m)	Date 1953	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
						979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		36° ′	139°′											
4109	3715	43.7	33.2	744.71	IV 18	75212	9819	8986	8782	103.7	20.4	8935	88.4	5.1
							980.							
4114	3716	41.9	30.9	1023.24	〃	69262	0084	8939	8756	132.8	18.3	8909	117.5	3.0
							979.							
4116	3717	40.6	29.5	781.97	〃	73718	9785	8910	8737	104.8	17.3	8890	89.5	2.0
4119	3718	38.6	27.1	646.56	〃	76867	9682	8959	8709	97.3	25.0	8862	82.0	9.7
4122	3412	36.7	24.7	572.06	II 6	77904	9556	8916	8681	87.5	23.5	8834	72.2	8.2

(9) Gumma Prefecture

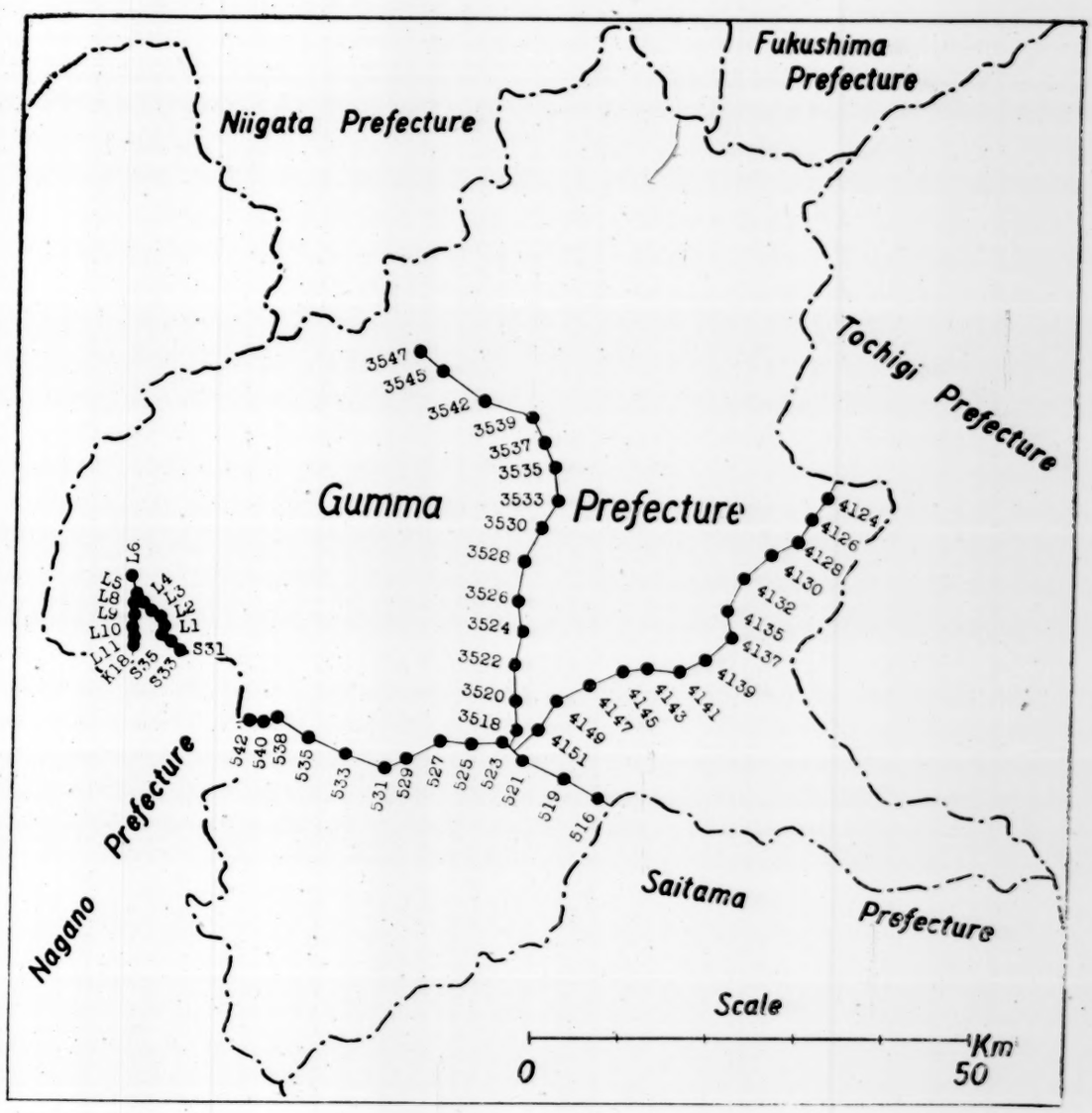

Fig. 9. Gravity Stations in Gumma Prefecture.

Table XII. Synoptic Results for Gumma Prefecture (I).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1953	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		36° ′	139°′											
516	3394	16.5	06.7	63.67	II 5	86072	8804	8733	8390	41.4	34.3	8544	26.0	18.9
519	3395	17.6	03.2	82.56	〃	84982	8753	8651	8406	34.7	25.5	8560	19.3	10.1
521	3396	18.6	01.1	93.61	〃	84567	8746	8641	8421	32.5	22.0	8574	17.2	6.7
			138°											
523	3458	19.8	59.5	93.69	II 20	84560	8745	8640	8438	30.7	20.2	8591	15.4	4.9
525	3459	19.9	57.0	112.75	〃	84279	8776	8650	8439	33.7	21.1	8593	18.3	5.7
527	3460	19.7	54.4	149.62	〃	83424	8804	8637	8436	36.8	20.1	8590	21.4	4.7
529	3461	18.7	52.1	207.40	〃	82223	8862	8630	8422	44.0	20.8	8576	28.6	5.4
531	3462	18.2	49.6	264.33	〃	81114	8927	8631	8415	51.2	21.6	8568	35.9	6.3
533	3463	19.0	47.2	315.34	〃	79799	8953	8600	8426	52.7	17.4	8580	37.3	2.0
535	3464	19.9	44.7	377.29	〃	78292	8994	8571	8439	55.5	13.2	8593	40.1	−2.2
〃	3470	〃	〃	〃	〃	78295	8994	8572	〃	55.5	13.3	〃	40.1	−2.1
538	3465	21.3	42.2	579.85	〃	74096	9199	8550	8459	74.0	9.1	8613	58.6	−6.3
540	3466	21.0	41.2	681.04	〃	72383	9340	8578	8455	88.5	12.3	8609	73.1	−3.1
〃	3469	〃	〃	〃	〃	72393	9341	8579	〃	88.6	12.4	〃	73.2	−3.0
542	3467	21.1	39.9	841.68	〃	68958	9493	8551	8456	103.7	9.5	8610	88.3	−5.9

Synoptic Results for Gumma Prefecture (II).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1953	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		36° ′	139°′											
4151	3397	20.7	01.5	93.71	II 5	84496	8739	8634	8451	28.8	18.3	8604	13.5	3.0
4149	3398	22.8	03.3	105.99	〃	84358	8763	8646	8481	28.5	16.5	8634	13.2	1.2
4147	3399	23.5	05.7	101.18	〃	84958	8808	8695	8491	31.7	20.4	8644	16.4	5.1
4145	3400	24.3	07.9	133.96	〃	84606	8874	8724	8503	37.1	22.1	8656	21.8	6.8
4143	3401	24.7	10.3	169.00	〃	84404	8932	8773	8508	45.4	26.5	8662	30.0	11.1

4141	3402	24.6	12.8	174.73		〃	85091	9048	8853	8507	54.1	34.6	8560	38.8	19.3
4139	3403	25.0	15.3	168.61		〃	87209	9241	9053	8513	72.8	54.0	8666	57.5	38.7
4137	3404	26.2	16.8	191.86		〃	87342	9326	9112	8530	79.6	58.2	8683	64.3	42.9
4135	3406	27.7	16.0	232.52	II	6	85542	9272	9012	8551	72.1	46.1	8705	56.7	30.7
4132	3407	29.9	17.7	283.20		〃	84095	9284	8967	8583	70.1	38.4	8736	54.8	23.1
4130	3408	31.4	19.3	323.85		〃	83232	9323	8960	8605	71.8	35.5	8758	56.5	20.2
4128	3409	32.2	21.8	389.68		〃	81853	9388	8952	8616	77.2	33.6	8769	61.9	18.3
4126	3410	33.7	22.8	456.04		〃	80205	9428	8918	8638	79.0	28.0	8791	63.7	12.7
4124	3411	35.0	24.0	497.27		〃	79326	9467	8911	8657	81.0	25.4	8810	65.7	10.1

Synoptic Results for Gumma Prefecture (III).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1953	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		36° ′	139°′											
3518	3441	20.5	00.2	99.44	II 19	84317	8739	8627	8448	29.1	17.9	8601	13.8	2.6
3520	3442	22.6	00.2	123.62	〃	83575	8739	8601	8478	26.1	12.3	8632	10.7	− 3.1
3522	3443	24.7	00.4	175.96	〃	82287	8772	8575	8508	26.4	6.7	8662	11.0	− 8.7
3524	3444	26.8	00.7	198.39	〃	81977	8810	8588	8539	27.1	4.9	8692	11.8	−10.4
3526	3445	28.9	00.3	188.94	〃	82559	8839	8628	8569	27.0	5.9	8722	11.7	− 9.4
3528	3446	31.0	00.8	209.59	〃	82527	8900	8665	8599	30.1	6.6	8752	14.8	− 8.7
3530	3447	32.8	01.9	244.93	〃	81822	8938	8664	8625	31.3	3.9	8778	16.0	−11.4
3533	3448	34.9	03.2	269.92	〃	81179	8951	8649	8655	29.6	−0.6	8808	14.3	−15.9
3535	3456	36.4	02.7	293.98	II 20	80354	8943	8614	8677	26.6	−6.3	8830	11.3	−21.6
3537	3449	38.3	02.3	330.90	II 19	80344	9053	8685	8704	35.2	−1.9	8857	19.9	−17.2
〃	3455	〃	〃	〃	II 20	80336	9055	8685	〃	35.1	−1.9	〃	19.8	−17.2
3539	3451	40.0	00.8	365.10	〃	80751	9202	8793	8729	47.3	6.4	8882	32.0	− 8.9
			138°											
3542	3452	40.6	57.5	415.43	〃	79470	9229	8764	8737	49.2	2.7	8890	33.9	−12.6
3545	3453	42.2	54.7	486.94	〃	78292	9332	8787	8760	57.2	2.7	8913	41.9	−12.6
3547	3454	43.3	53.3	610.22	〃	76195	9503	8820	8776	72.7	4.4	8929	57.4	−10.9

Synoptic Results for Gumma Prefecture (IV).

B.M.	No.	φ	λ	H (m)	Date 1953	g 979.	g_0 979.	g_0'' 979.	HELMERT Formula of 1901 γ_0 979.	HELMERT Formula of 1901 Δg_0 (mgal.)	HELMERT Formula of 1901 $\Delta g_0''$ (mgal.)	International Formula γ_0 979.	International Formula Δg_0 (mgal.)	International Formula $\Delta g_0''$ (mgal.)
		36° ′	138°′											
S. 31 *	4259	25.0	34.0	1413.32	VIII 31	54157	9777	8196	8513	126.4	−31.7	8666	111.1	−47.0
S. 33 *	4268	25.9	33.4	1363.13	〃	55390	9746	8220	8526	122.0	−30.6	8679	106.7	−45.9
S. 35 *	4260	26.4	32.4	1327.55	〃	56025	9699	8214	8533	116.6	−31.9	8686	101.3	−47.2
L. 1 *	4261	27.2	32.7	1213.45	〃	58662	9611	8253	8544	106.7	−29.1	8698	91.3	−44.5
L. 2 *	4262	27.6	33.0	1159.67	〃	59990	9578	8280	8550	102.8	−27.0	8703	87.5	−42.3
〃	4267	〃	〃	〃	〃	59994	9578	8280	〃	102.8	−27.0	〃	87.5	−42.3
L. 3 *	4263	28.0	32.3	1135.89	〃	60345	9540	8269	8556	98.4	−28.7	8709	83.1	−44.0
L. 4 *	4264	28.5	31.8	1118.70	〃	60646	9517	8265	8563	95.4	−29.8	8716	80.1	−45.1
L. 5 *	4265	29.2	30.9	1040.79	〃	62371	9449	8284	8573	87.6	−28.9	8726	72.3	−44.2
L. 6 *	4266	29.8	30.7	989.14	〃	63629	9415	8309	8582	83.3	−27.3	8735	68.0	−42.6
〃	4272	〃	〃	〃	IX 1	63624	9415	8308	〃	83.3	−27.4	〃	68.0	−42.7
〃	4279	〃	〃	〃	〃	63627	9415	8308	〃	83.3	−27.4	〃	68.0	−42.7
L. 8 *	4273	28.4	31.0	1115.00	〃	60642	9505	8257	8562	94.3	−30.5	8715	79.0	−45.8
L. 9 *	4274	27.5	31.2	1182.75	〃	59083	9558	8235	8549	100.9	−31.4	8702	85.6	−46.7
L. 10 *	4275	26.9	31.1	1273.17	〃	57043	9633	8209	8540	109.3	−33.1	8693	94.0	−48.4
〃	4278	〃	〃	〃	〃	57042	9633	8209	〃	109.3	−33.1	〃	94.0	−48.4
L. 11 *	4276	26.4	30.9	1361.77	〃	55111	9714	8190	8533	118.1	−34.3	8686	102.8	−49.6
K. 18 *	4277	25.8	30.8	1530.71	〃	51504	9874	8161	8524	135.0	−36.3	8677	119.7	−51.6

* Earthquake Research Institute Bench Marks.

(10) Saitama Prefecture

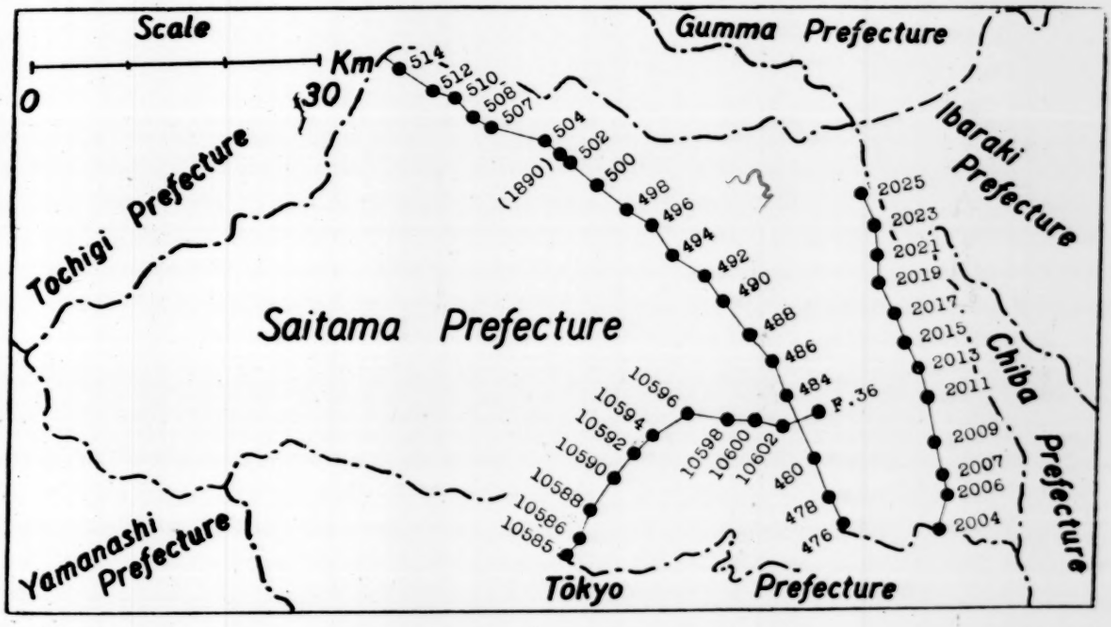

Fig. 10. Gravity Stations in Saitama Prefecture.

Table XIII. Synoptic Results for Saitama Prefecture (I).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1952	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		35° ′	139°′											
476	1877	48.5	41.2	4.51	VII 3	82015	8215	8210	7989	22.6	22.1	8144	7.1	6.6
478	1879	50.1	39.8	5.99	〃	82953	8314	8307	8012	30.2	29.5	8167	14.7	14.0
480	1878	52.1	39.1	14.37	〃	84239	8468	8452	8041	42.7	41.1	8195	27.3	25.7
F. 36	1880	54.9	37.9	15.53	〃	84953	8543	8526	8081	46.2	44.5	8235	30.8	29.1
484	1881	56.0	37.1	14.97	〃	85005	8547	8530	8096	45.1	43.4	8251	29.6	27.9
486	1882	58.0	35.8	16.83	〃	85633	8615	8596	8125	49.0	47.1	8279	33.6	31.7
488	1883	59.7	34.3	20.05	〃	86256	8688	8665	8149	53.9	51.6	8304	38.4	36.1
		36°												
490	1884	01.3	32.7	24.25	〃	86499	8725	8698	8172	55.3	52.6	8326	39.9	37.2
492	1885	03.2	31.2	26.21	〃	86526	8734	8704	8199	53.5	50.5	8354	38.0	35.0
491	1886	04.5	29.0	18.09	〃	86807	8737	8716	8218	51.9	49.8	8372	36.5	34.4
496	1887	06.1	27.4	18.36	〃	86687	8725	8705	8241	48.4	46.4	8395	33.0	31.0
493	1888	06.9	25.3	21.95	〃	86835	8751	8727	8252	49.9	47.5	8407	34.4	32.0
500	1889	08.3	23.7	26.35	VII 9	86892	8771	8741	8273	49.8	46.8	8427	34.4	31.4
Kumagaya W S. *	1890	08.8	23.0	30.00	〃	86899	8783	8749	8280	50.3	46.9	8434	34.9	31.5
502	1891	09.6	21.7	34.67	〃	86968	8804	8765	8291	51.3	47.4	8445	35.9	32.0
504	1892	10.0	19.7	36.30	〃	86937	8806	8765	8297	50.9	46.8	8451	35.5	31.4
507	1893	11.7	15.9	42.63	〃	86841	8816	8768	8321	49.5	44.7	8475	34.1	29.3
508	1894	12.4	15.0	50.39	〃	86747	8830	8774	8331	49.9	44.3	8485	34.5	28.9
510	1895	13.9	13.3	42.78	〃	86939	8826	8778	8353	47.3	42.5	8507	31.9	27.1
512	1896	14.3	10.9	58.81	〃	86610	8843	8777	8359	48.4	41.8	8513	33.0	26.4
514	1897	15.5	08.8	58.22	〃	86430	8823	8758	8376	44.7	38.2	8530	29.3	22.8

* Weather Station Bench Mark.

Synoptic Results for Saitama Prefecture (II)

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1952	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		35° ′	139°′											
2004	1911	48.1	48.0	4.08	VII 10	82593	8272	8267	7983	28.9	28.4	8138	13.4	12.9
2006	1912	50.1	48.6	3.05	〃	83898	8399	8396	8012	38.7	38.4	8167	23.2	22.9
2007	1913	51.2	48.2	4.02	〃	84603	8473	8468	8028	44.5	44.0	8182	29.1	28.6
2009	1914	53.2	47.6	5.90	〃	86224	8641	8634	8056	58.5	57.8	8211	43.0	42.3
2011	1915	55.2	47.1	6.42	〃	86989	8719	8712	8085	63.4	62.7	8239	48.0	47.3
2013	1916	57.3	46.7	6.15	〃	86826	8702	8695	8115	58.7	58.0	8269	43.3	42.6
2015	1917	59.1	45.3	6.97	〃	86730	8695	8687	8141	55.4	54.6	8295	40.0	39.2
		36°												
2017	1918	01.1	44.9	8.55	〃	87171	8744	8734	8169	57.5	56.5	8324	42.0	41.0
2019	1919	02.6	43.3	7.44	〃	87634	8786	8778	8191	59.5	58.7	8345	44.1	43.3
2021	1920	04.5	43.3	10.77	〃	88502	8883	8871	8218	66.5	65.3	8372	51.1	49.9
2023	1921	06.7	43.6	13.07	〃	89829	9023	9009	8250	77.3	75.9	8404	61.9	60.5
					1953									
2025	3555	08.4	42.3	12.47	III 11	90038	9042	9028	8274	76.8	75.4	8428	61.4	60.0

Synoptic Results for Saitama Prefecture (III).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1952	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		35° ′	139°′											
10602	1899	54.2	36.8	14.70	VII 9	85026	8548	8532	8071	47.7	46.1	8225	32.3	30.7
10600	1900	54.7	34.5	11.24	〃	85255	8560	8548	8078	48.2	47.0	8232	32.8	31.6
10598	1901	54.8	32.0	9.87	〃	85459	8576	8565	8079	49.7	48.6	8234	34.2	33.1
10596	1902	54.9	29.8	15.19	〃	85274	8574	8557	8081	49.3	47.6	8235	33.9	32.2
10594	1903	54.2	28.4	25.20	〃	84957	8574	8545	8071	50.3	47.4	8225	34.9	32.0

Table XIII. (Continued)

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1952	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		35° ′	139°′											
10592	1904	53.0	26.6	38.45	VII 9	84322	8551	8508	8053	49.8	45.5	8208	34.3	30.0
10590	1905	51.4	24.8	56.08	〃	82928	8466	8403	8031	43.5	37.2	8185	28.1	21.8
10588	1908	49.5	23.2	103.71	〃	80862	8406	8290	8003	40.3	28.7	8158	24.8	13.2
10586	1909	47.6	22.2	127.06	〃	80096	8402	8260	7976	42.6	28.4	8131	27.1	12.9
10585	1910	46.5	21.4	138.87	〃	80306	8459	8304	7961	49.8	34.3	8115	34.4	18.9
					1953									
〃	4629	〃	〃	〃	X 15	80329	8462	8306	〃	50.1	34.5	〃	34.7	19.1

(11) Chiba Prefecture

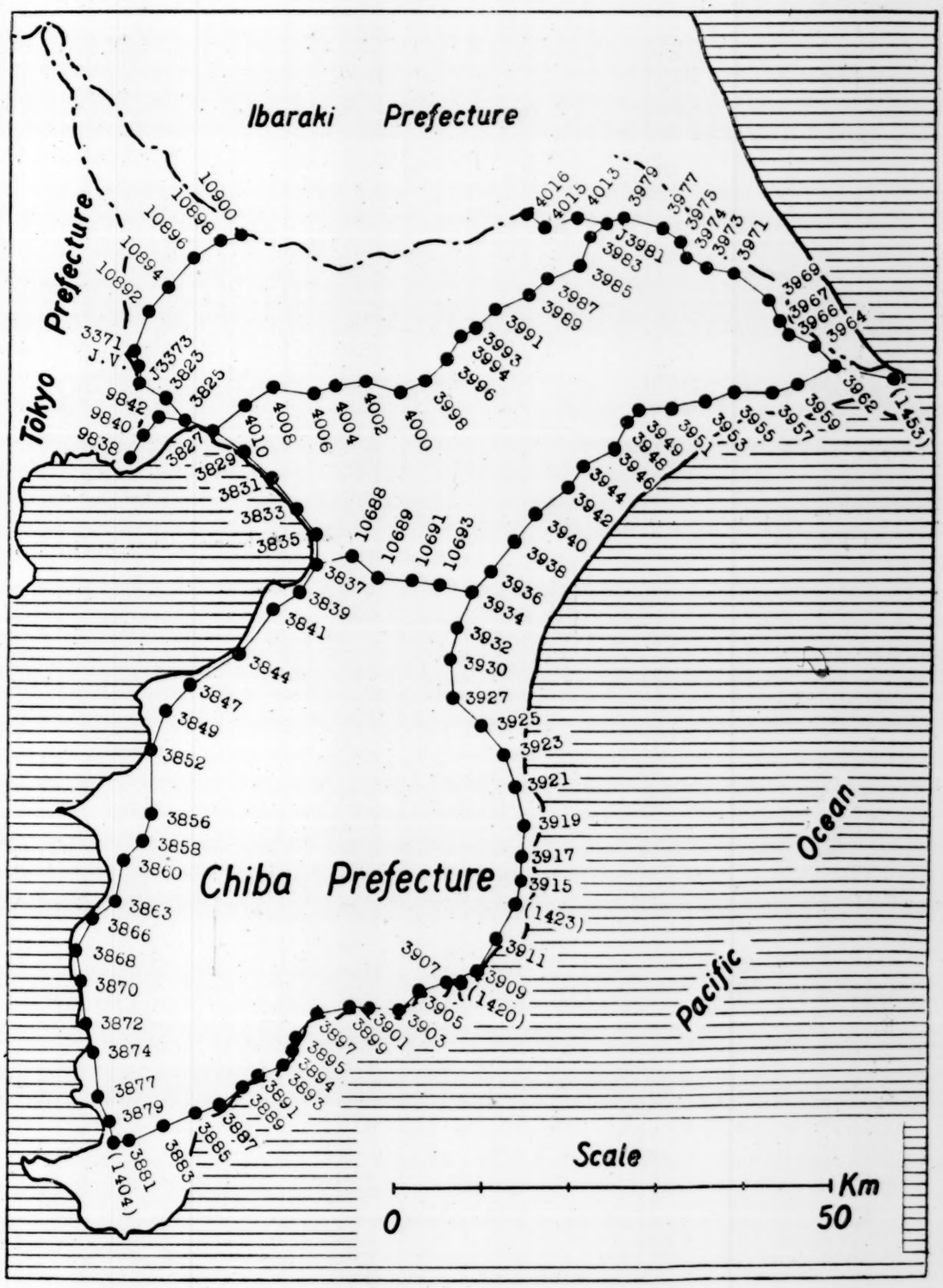

Fig. 11 Gravity Stations in Chiba Prefecture.

Table XIV. Synoptic Results for Chiba Prefecture (I).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1952	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		35° ′	140°′											
4016	1466	54.1	24.2	6.25	II 6	91610	9180	9173	8069	111.1	110.4	8224	95.6	94.9
4015	1465	53.4	25.2	4.30	〃	91669	9180	9175	8059	112.1	111.6	8214	96.6	96.1
4013	1464	53.4	27.7	3.37	〃	91170	9127	9124	8059	106.8	106.5	8214	91.3	91.0
J. 3981	1463	53.2	29.9	4.43	〃	90338	9048	9043	8056	99.2	98.7	8211	83.7	83.2
3979	1462	53.8	32.0	1.62	II 5	89808	8986	8934	8065	92.1	91.9	8219	76.7	76.5
3977	1461	53.2	34.2	4.72	〃	89424	8957	8952	8056	90.1	89.6	8211	74.6	74.1
3975	1460	51.8	36.0	3.26	〃	90122	9022	9019	8036	98.6	98.3	8191	83.1	82.8
3974	1459	51.0	36.7	1.48	〃	90267	9031	9030	8025	100.6	100.5	8179	85.2	85.1
3973	1458	50.5	37.7	5.14	〃	90094	9025	9020	8018	100.7	100.2	8172	85.3	84.8
3971	1457	50.2	40.2	5.09	〃	89859	9003	8997	8013	99.0	98.4	8168	83.5	82.9
3969	1456	49.0	42.3	8.13	〃	88739	8899	8890	7996	90.3	89.4	8151	74.8	73.9
3967	1455	47.4	43.3	11.01	〃	88038	8838	8826	7973	86.5	85.3	8128	71.0	69.8
3966	1454	46.7	44.1	9.60	〃	88066	8836	8826	7963	87.3	86.3	8118	71.8	70.8
3964	1451	45.6	46.2	3.80	II 4	88233	8835	8831	7948	88.7	88.3	8102	73.3	72.9
3962	1452	44.6	47.5	9.21	〃	88024	8831	8821	7933	89.8	88.8	8088	74.3	73.3
〃	〃	〃	〃	〃	II 5	88004	8829	8819	〃	89.6	88.6	〃	74.1	73.1
Chōshi W.S. *	1453	44.2	51.7	27.36	〃	87741	8859	8828	7928	93.1	90.0	8083	77.6	74.5

* Weather Station Bench Mark.

Synoptic Results for Chiba Prefecture (II).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1952	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		35° ′	140°											
3959	1450	43.1	44.5	55.61	II 4	85931	8765	8703	7912	85.3	79.1	8067	69.8	63.6
3957	1449	43.1	42.0	8.90	〃	86630	8691	8681	7912	77.9	76.9	8057	62.4	61.4
3955	1448	43·0	39.6	7.11	〃	86165	8638	8630	7911	72.7	71.9	8055	57.3	56.5
3953	1447	42.3	37.3	6.71	〃	85416	8562	8555	7901	66.1	65.4	8055	50.7	50.0
3951	1446	42.1	35.0	7.17	〃	85009	8523	8515	7898	62.5	61.7	8053	47.0	46.2

	3949	1445	41.7	32.6	10.09	〃	84525	8484	8472	7892	59.2	58.0	8047	43.7	42.5
	3948	1444	41.1	31.6	13.03	〃	83995	8440	8425	7884	55.6	54.1	8038	40.2	38.7
	3946	1443	39.6	30.2	6.42	〃	83000	8320	8313	7862	45.8	45.1	8017	30.3	29.6
	3944	1442	38.7	28.0	9.24	〃	82077	8236	8226	7849	38.7	37.7	8004	23.2	22.2
	3942	1441	37.2	26.5	6.70	〃	80943	8115	8108	7828	28.7	28.0	7983	13.2	12.5
	3940	1440	35.8	24.5	7.69	〃	79876	8011	8003	7808	20.3	19.5	7963	4.8	4.0
	3938	1439	34.2	22.5	9.89	〃	78755	7906	7895	7785	12.1	11.0	7940	− 3.4	− 4.5
	3936	1438	32.6	21.0	9.76	〃	78125	7843	7832	7762	8.1	7.0	7917	− 7.4	− 8.5
J.	3934	1433	31.3	19.4	12.18	II 2	77502	7788	7774	7744	4.4	3.0	7899	−11.1	−12.5
	3932	1432	29.3	18.4	11.66	〃	76976	7734	7721	7715	1.9	0.6	7871	−13.7	−15.0
	3930	1431	27.2	18.2	10.18	〃	77067	7738	7727	7685	5.3	4.2	7841	−10.3	−11.4
	3927	1430	24.8	19.0	9.01	〃	77464	7774	7764	7651	12.3	11.3	7807	− 3.3	− 4.3
	3925	1429	23.4	20.6	8.87	〃	78100	7837	7828	7631	20.6	19.7	7787	5.0	4.1
	3923	1428	21.8	22.1	6.84	〃	78761	7897	7890	7609	28.8	28.1	7764	13.3	12.6
	3921	1427	19.7	22.8	31.55	〃	78895	7987	7952	7579	40.8	37.3	7734	25.3	21.8
	3919	1426	17.8	23.3	8.06	〃	80039	8032	8023	7552	48.0	47.1	7707	32.5	31.6
	3917	1425	16.0	23.5	10.13	〃	80703	8102	8091	7526	57.6	56.5	7682	42.0	40.9
	3915	1424	14.0	23.6	7.90	〃	81329	8157	8149	7498	65.9	65.1	7654	50.3	49.5
	F. 5	1423	12.4	22.7	22.78	〃	81411	8211	8183	7475	73.6	71.1	7631	58.0	55.5
	3911	1422	10.6	21.1	4.06	〃	82538	8266	8252	7450	81.6	81.2	7605	66.1	65.7
	3909	1421	09.1	20.0	5.94	〃	82930	8316	8310	7428	88.8	88.2	7584	73.2	72.6
Katsuura	W.S. *	1420	08.9	18.9	14.81	〃	82884	8334	8317	7425	90.9	89.2	7581	75.3	73.6
	3907	1419	08.8	17.9	14.82	〃	83042	8350	8333	7424	92.6	90.9	7580	77.0	75.3
	3905	1418	08.2	15.8	3.17	〃	83356	8345	8342	7416	92.9	92.6	7572	77.3	77.0
	3903	1417	06.9	13.9	20.75	〃	82736	8338	8314	7397	94.1	91.7	7553	78.5	76.1
	3901	1416	07.2	12.2	4.58	〃	83052	8319	8314	7401	91.8	91.3	7557	76.2	75.7
	3899	1415	07.3	10.5	7.16	〃	83211	8343	8335	7403	94.0	93.2	7559	78.4	77.6
	3897	1414	07.1	08.2	5.88	〃	83551	8373	8367	7400	97.3	96.7	7556	81.7	81.1
	3895	1413	05.9	06.5	4.81	〃	82945	8309	8304	7383	92.6	92.1	7539	77.0	76.5
	〃	〃	〃	〃	〃	II 1	82955	8310	8305	〃	92.7	92.2	〃	77.1	76.6

* Weather Station, on the floor at the base of the stair-case to the wind tower.

Table XIV. (Continued).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1952	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		35°′	140°′											
3894	1412	05.2	06.0	49.39	II 1	81273	8280	8224	7373	90.7	85.1	7529	75.1	69.5
3893	1411	04.4	06.0	17.12	〃	80903	8143	8124	7362	78.1	76.2	7518	62.5	60.6
3891	1410	03.5	04.2	15.54	〃	79988	8047	8029	7349	69.8	68.0	7505	54.2	52.4
3889	1409	02.8	02.0	11.96	〃	79408	7978	7954	7339	63.9	62.5	7495	48.3	46.9
			139°											
3887	1408	01.5	59.8	6.95	〃	78519	7873	7866	7321	55.2	54.5	7477	39.6	38.9
3885	1407	00.6	57.7	21.44	〃	78413	7908	7884	7308	60.0	57.6	7464	44.4	42.0
3883	1406	00.0	55.5	20.66	〃	78900	7954	7931	7299	65.5	63.2	7456	49.8	47.5
		34°												
3881	1405	59.4	53.5	19.58	〃	79473	8008	7986	7291	71.7	69.5	7447	56.1	53.9
Tateyama B.S. *	1404	59.0	52.1	6.90	〃	80033	8025	8017	7285	74.0	73.2	7442	58.3	57.5
		35°												
3879	1403	00.1	52.0	6.25	〃	79345	7954	7947	7301	65.3	64.6	7457	49.7	49.0
3877	1402	02.2	51.2	18.52	〃	78415	7899	7878	7331	56.8	54.7	7487	41.2	39.1
3874	1401	05.0	51.1	8.49	〃	79751	8001	7992	7370	63.1	62.2	7526	47.5	46.6
3872	1400	06.5	50.1	3.67	〃	80450	8056	8052	7391	66.5	66.1	7547	50.9	50.5
3870	1399	08.3	50.3	5.95	〃	80632	8082	8075	7417	66.5	65.8	7573	50.9	50.2
3868	1398	09.9	49.5	4.48	〃	80127	8027	8022	7440	58.7	58.2	7596	43.1	42.6
3866	1397	11.8	50.0	7.59	〃	79667	7990	7982	7467	52.3	51.5	7622	36.8	36.0
3863	1396	13.0	52.6	17.37	〃	79245	7978	7959	7484	49.4	47.5	7639	33.9	32.0
3860	1395	15.5	53.5	22.13	〃	77810	7849	7825	7519	33.0	30.6	7675	17.4	15.0
3858	1394	17.0	55.0	34.20	〃	77010	7807	7768	7540	26.7	22.8	7696	11.1	7.2
3856	1393	18.6	55.7	16.29	〃	76809	7731	7713	7563	16.8	15.0	7719	1.2	− 0.6
3852	1392	22.5	55.6	2.18	〃	76551	7662	7659	7619	4.3	4.0	7774	−11.2	−11.5
〃	〃	〃	〃	〃	I 31	76540	7661	7658	〃	4.2	3.9	〃	−11.3	−11.6
3849	1391	25.2	56.8	4.60	〃	76330	7647	7642	7657	− 1.0	− 1.5	7812	−16.5	−17.0
3847	1390	26.3	59.0	8.31	〃	75981	7624	7614	7673	− 4.9	− 5.9	7828	−20.4	−21.4
			140°											
3844	1389	28.1	02.2	4.49	〃	75801	7594	7589	7698	−10.4	−10.9	7853	−25.9	−26.4

* Tateyama Branch Station of Tomisaki Weather Station.

3841	1388	30.4	01.6	2.53	〃	76197	7628	7625	7731	−10.3	−10.6	7886	−25.8	−26.1
3839	1387	31.5	06.8	2.84	〃	76508	7660	7656	7747	− 8.7	− 9.1	7902	−24.2	−24.6
J. 3837	1386	33.2	08.1	2.70	〃	76922	7701	7698	7771	− 7.0	− 7.3	7926	−22.5	−22.8
3835	1385	35.3	07.4	2.12	〃	77705	7777	7775	7801	− 2.4	− 2.6	7956	−17.9	−18.1
3833	1384	36.5	06.6	5.28	〃	78230	7839	7833	7818	2.1	1.5	7973	−13.4	−14.0
3831	1383	38.3	04.6	5.73	〃	79370	7955	7948	7844	11.1	10.4	7998	−4.3	− 5.0
3829	1382	39.6	02.8	3.55	〃	80081	8019	8015	7862	15.7	15.3	8017	0.2	− 0.2
3827	1381	40.9	00.7	4.14	〃	80467	8060	8055	7881	17.9	17.4	8035	2.5	2.0
			139°											
3825	1380	42.0	58.7	6.51	〃	80592	8079	8072	7896	18.3	17.6	8051	2.8	2.1
9842	1379	42.0	56.6	1.46	〃	80477	8052	8051	7896	15.6	15.5	8051	0.1	0.0
9840	1378	41.0	54.8	2.15	〃	80066	8013	8011	7882	13.1	12.9	8037	−2.4	− 2.6
9838	1377	39.5	53.6	1.97	〃	79384	7945	7942	7861	8.4	8.1	8016	−7.1	− 7.4

Synoptic Results for Chiba Prefecture (III).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1952	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		35° ′	140°′											
10693	1434	31.7	16.8	80.07	II 2	75521	7799	7710	7749	5.0	−3.9	7905	−10.6	−19.5
10691	1435	32.4	14.0	67.87	〃	75592	7769	7693	7759	1.0	−6.6	7915	−14.6	−22.2
10689	1436	33.0	11.8	50.25	〃	75998	7755	7699	7768	−1.3	−6.9	7923	−16.8	−22.4
10688	1437	33.8	10.7	39.92	〃	76407	7764	7719	7779	−1.5	−6.0	7934	−17.0	−21.5

Synoptic Results for Chiba Prefecture (IV).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1952	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		35° ′	140°′											
3983	1467	52.1	28.4	36.82	II 6	89984	9112	9071	8041	107.1	103.0	8195	91.7	87.6
3985	1468	50.5	27.2	38.19	〃	89402	9058	9015	8018	104.0	99.7	8172	88.6	84.3
3987	1469	49.7	25.5	3.31	〃	89855	8997	8993	8003	99.1	98.7	8161	83.6	83.2
3989	1470	48.6	23.6	27.38	〃	88862	8971	8940	7991	98.0	94.9	8145	82.6	79.5
3991	1471	48.0	21.5	38.16	〃	87843	8902	8859	7982	92.0	87.7	8137	76.5	72.2
3993	1472	47.1	20.0	6.29	〃	87586	8778	8771	7959	80.9	80.2	8124	65.4	64.7
3994	1473	46.6	19.2	33.94	〃	86540	8759	8721	7962	79.7	75.9	8117	64.2	60.4
3996	1474	44.9	18.0	22.13	〃	86107	8679	8654	7938	74.1	71.6	8092	58.7	56.2
3998	1475	43.5	16.2	32.26	〃	84903	8590	8554	7918	67.2	63.6	8073	51.7	48.1
4000	1476	43.0	14.2	33.68	〃	83946	8499	8461	7911	58.8	55.0	8065	43.4	39.6
4002	1477	43.8	12.0	25.97	〃	83870	8457	8438	7922	54.5	51.6	8077	39.0	36.1
4004	1478	43.5	09.8	25.46	〃	83160	8395	8366	7918	47.7	44.8	8073	32.2	29.3
4006	1479	42.8	07.8	26.44	〃	82238	8305	8276	7908	39.7	36.8	8063	24.2	21.3
4008	1480	43.3	05.0	26.63	〃	81723	8255	8225	7915	34.0	31.0	8070	18.5	15.5
4010	1481	42.2	02.3	26.43	〃	80750	8157	8127	7899	25.8	22.8	8054	10.3	7.3

Synoptic Results for Chiba Prefecture (V).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1952	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		35° ′	139°′											
3823	1376	42.9	56.4	5.57	I 31	80775	8095	8089	7909	18.6	18.0	8064	3.1	2.5
3373	1372	43.9	54.3	3.89	〃	81294	8141	8137	7924	21.7	21.3	8078	6.3	5.9
〃	〃	〃	〃	〃	〃	81297	8142	8137	〃	21.8	21.3	〃	6.4	5.9
J. V.	1373	45.3	54.1	16.00	〃	81706	8220	8202	7943	27.7	25.9	8098	12.2	10.4
J. 3371	1374	45.9	54.2	26.15	〃	81833	8264	8235	7952	31.2	28.3	8107	15.7	12.8

					1953												
10892	3494	48.6	55.5	12.06	III	5	84542	8491	8478	7991	50.0	48.7	8145	34.6	33.3		
10894	3495	50.1	57.0	24.09		"	86005	8675	8648	8012	66.3	63.6	8167	50.8	48.1		
10896	3496	51.8	58.9	20.94		"	87915	8856	8833	8036	82.0	79.7	8191	66.5	64.2		
			140°														
10898	3497	52.4	01.1	18.50		"	88440	8901	8880	8045	85.6	83.5	8199	70.2	68.1		
10900	3498	53.0	03.4	11.54		"	89052	8941	8928	8053	88.8	87.5	8208	73.3	72.0		

(12) Tôkyo Prefecture

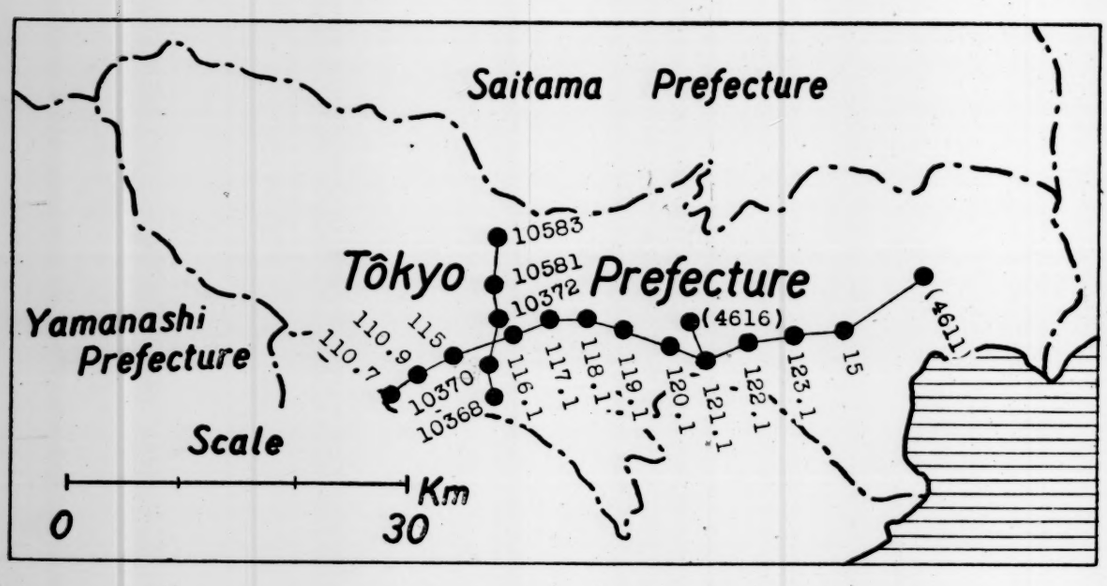

Fig. 12. Gravity Stations in Tôkyo Prefecture.

Table XV. Synoptic Results for Tôkyo Prefecture (I).

B.M.	No.	φ	λ	H (m)	Date 1953	g 979.	g_0 979.	g_0'' 979.	HELMERT Formula of 1901 γ_0 979.	HELMERT Formula of 1901 Δg_0 (mgal.)	HELMERT Formula of 1901 $\Delta g_0''$ (mgal.)	International Formula γ_0 979.	International Formula Δg_0 (mgal.)	International Formula $\Delta g_0''$ (mgal.)
		35° ′	139°′											
110.7	4625	36.8	14.7	290.80	X 15	76755	8573	8248	7822	75.1	42.6	7977	59.6	27.1
110.9	4624	37.7	16.4	190.86	〃	78735	8463	8249	7835	62.8	41.4	7990	47.3	25.9
115	4623	38.9	18.3	144.00	〃	79112	8356	8195	7852	50.4	34.3	8007	34.9	18.8
116.1	4622	39.7	21.8	116.47	〃	78357	8195	8065	7864	33.1	20.1	8018	17.7	4.7
〃	4633	〃	〃	〃	〃	78368	8196	8066	〃	33.2	20.2	〃	17.8	4.8
117.1	4621	40.5	24.0	75.17	〃	78464	8078	7994	7875	20.3	11.9	8030	4.8	− 3.6
118.1	4620	40.7	26.2	68.39	〃	77766	7988	7911	7878	11.0	3.3	8033	− 4.5	−12.2
119.1	4619	40.0	28.5	56.70	〃	77012	7876	7813	7868	0.8	− 5.5	8023	−14.7	−21.0
120.1	4618	39.7	31.2	45.10	〃	76834	7823	7772	7864	−4.1	− 9.2	8018	−19.5	−24.6
121.1	4615	38.8	33.5	32.92	〃	76737	7775	7739	7851	−7.6	−11.2	8006	−23.1	−26.7
122.1	4614	39.8	35.9	48.15	〃	76715	7820	7766	7865	−4.5	− 9.9	8020	−20.0	−25.4
123.1	4613	39.8	38.5	47.91	〃	77027	7851	7797	7865	−1.4	− 6.8	8020	−16.9	−22.3
15	4612	40.6	41.2	40.01	〃	77844	7908	7863	7876	3.2	− 1.3	8031	−12.3	−16.8
*	4611	42.6	56.2	17.92	III 5	80100	8065	8045	7905	16.0	14.0	8060	0.6	− 1.5
			140°		1952									
J. 3370	3493	46.5	03.7	8.49	I 31	82610	8287	8278	7961	32.6	31.7	8115	17.2	16.3

* Base Apparatus Room, Tôkyo University, on the block for scale calibration.

Synoptic Results for Tôkyo Prefecture (II).

B.M.	No.	φ	λ	H (m)	Date 1953	g 979.	g_0 979.	g_0'' 979.	HELMERT Formula of 1901 γ_0 979.	HELMERT Formula of 1901 Δg_0 (mgal.)	HELMERT Formula of 1901 $\Delta g_0''$ (mgal.)	International Formula γ_0 979.	International Formula Δg_0 (mgal.)	International Formula $\Delta g_0''$ (mgal.)
		35° ′	139°′											
10583	4628	44.4	20.6	133.20	X 15	80688	8480	8331	7931	54.9	40.0	8085	39.5	24.6
10581	4627	42.4	20.5	104.43	〃	80395	8362	8245	7902	46.0	34.3	8057	30.5	18.8
10372	4626	40.7	20.9	109.23	〃	79433	8280	8158	7878	40.2	28.0	8033	24.7	12.5
10370	4630	38.7	20.4	135.30	〃	78250	8243	8091	7849	39.4	24.2	8004	23.9	8.7
10368	4631	36.7	20.8	155.61	〃	76667	8147	7973	7821	32.6	15.2	7976	17.1	−0.3

(13) Kanagawa Prefecture

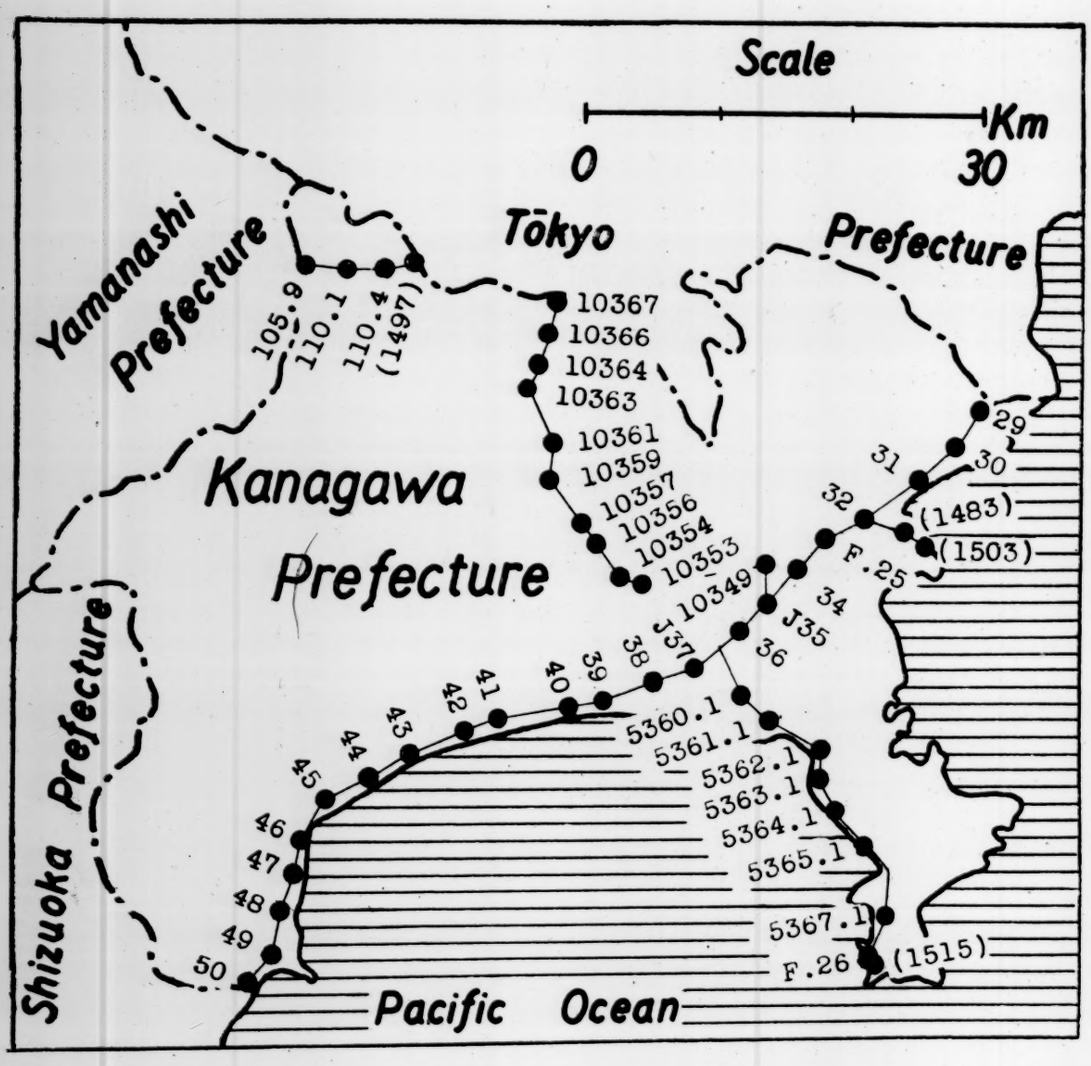

Fig. 13. Gravity Stations Kanagawa Prefecture.

Table XVI. Synoptic Results for Kanagawa Prefecture (I).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	Helmert Formula of 1901			International Formula		
				(m)	1952	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		35° ′	139°′											
29	1482	31.6	42.2	2.78	III 5	76610	7670	7667	7748	− 7.8	− 8.1	7903	−23.3	−23.6
30	1501	29.9	40.8	2.22	III 6	76267	7631	7631	7724	− 9.0	− 9.3	7879	−24.5	−24.8
31	1502	28.7	38.7	7.52	〃	75477	7571	7563	7707	−13.6	−14.4	7862	−29.1	−29.9
Yokohama W.S. *	1503	26.2	39.2	37.70	〃	74712	7588	7545	7671	− 8.3	−12.6	7827	−23.9	−28.2
32.1	1504	26.6	36.1	5.99	〃	75478	7566	7560	7677	−11.1	−11.7	7832	−26.6	−27.2
F. 25	1505	26.5	34.8	20.33	〃	75282	7591	7568	7675	−8.4	−10.7	7831	−24.0	−26.3
34	1506	25.1	33.4	18.29	〃	75442	7601	7580	7656	−5.5	− 7.6	7811	−21.0	−23.1
J. 35	1484	23.5	32.0	14.36	〃	76005	7645	7629	7633	1.2	− 0.4	7788	−14.3	−15.9
36	1507	22.0	30.2	51.26	〃	76017	7760	7703	7611	14.9	9.2	7767	− 0.7	− 6.4
J. 37	1508	20.7	28.6	11.73	〃	77892	7825	7812	7593	23.2	21.9	7748	7.7	6.4
38	1518	20.3	26.4	12.16	III 7	77523	7790	7776	7587	20.3	18.9	7743	4.7	3.3
39	1519	19.6	23.9	7.04	〃	77519	7774	7766	7577	19.7	18.9	7733	4.1	3.3
40	1520	19.7	21.5	5.94	〃	76946	7713	7706	7579	13.4	12.7	7734	− 2.1	− 2.8
41	1521	18.7	19.3	9.67	〃	76725	7702	7692	7565	13.7	12.7	7720	− 1.8	− 2.8
〃	〃	〃	〃	〃	III 8	76726	7702	7692	〃	13.7	12.7	〃	− 1.8	− 2.8
42	1522	18.1	17.1	14.17	III 7	77118	7756	7740	7556	20.0	18.4	7712	4.4	2.8
43	1523	17.3	14.6	23.31	〃	77553	7827	7801	7545	28.2	25.6	7700	12.7	10.1
44	1524	16.4	12.4	7.31	〃	77745	7797	7789	7532	26.5	25.7	7688	10.9	10.1
45	1525	15.2	10.3	5.90	〃	78336	7852	7845	7515	33.7	33.0	7671	18.1	17.4
46	1526	13.8	08.8	9.96	〃	79334	7964	7953	7495	46.9	45.8	7651	31.3	30.2
〃	〃	〃	〃	〃	III 8	79337	7964	7953	〃	46.9	45.8	〃	31.3	30.2
47	1527	12.2	08.7	33.77	III 7	78749	7979	7941	7472	50.7	46.9	7628	35.1	31.3
48	1528	11.0	08.2	128.48	〃	77313	8128	7984	7455	67.3	52.9	7611	51.7	37.3
49	1529	09.5	08.2	76.12	〃	78659	8101	8016	7434	66.7	58.2	7590	51.1	42.6
〃	〃	〃	〃	〃	III 8	78667	8102	8016	〃	66.8	58.2	〃	51.2	42.6
50	1332	08.5	06.8	4.75	I 22	81082	8123	8118	7420	70.3	69.8	7576	54.7	54.2

* Weather Station Seismometer Room, on the surface of the concrete block for seismometer installation.

Synoptic Results for Kanagawa Prefecture (II).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1952	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		35° ′	139°′											
5360.1	1509	19.6	30.6	7.83	III 6	78009	7825	7816	7577	24.8	23.9	7733	9.2	8.3
5361.1	1510	18.6	32.6	10.10	〃	78032	7834	7823	7563	27.1	26.0	7719	11.5	10.4
5362.1	1511	17.8	34.5	5.67	〃	78244	7842	7836	7552	29.0	28.4	7707	13.5	12.9
〃	〃	〃	〃	〃	〃	78243	7842	7836	〃	29.0	28.4	〃	13.5	12.9
5363.1	1512	16.3	34.6	4.66	〃	79677	7982	7977	7531	45.1	44.6	7686	29.6	29.1
5364.1	1513	14.8	35.6	12.50	〃	79314	7970	7956	7509	46.1	44.7	7665	30.5	29.1
5365.1	1514	13.6	37.3	10.53	〃	78924	7925	7913	7492	43.3	42.1	7648	27.7	26.5
5367.1	1517	10.3	38.5	77.14	〃	76862	7924	7838	7445	47.9	39.3	7601	32.3	23.7
Aburatsubo B.S.E.R.I. *	1515	09.4	36.9		〃	78859								
F. 23	1516	09.5	37.2	16.81	〃	78193	7901	7882	7434	46.7	44.8	7590	31.1	29.2

* Branch Station, Earthquake Research Institute, on the block for the tiltmeter observation.

Synoptic Results for Kanagawa Prefecture (III).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1952	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		35° ′	139°′											
10349	1485	24.5	30.6	46.45	III 5	75337	7677	7625	7647	3.0	−2.2	7802	−12.5	−17.7
10353	1486	24.0	25.4	45.83	〃	76750	7816	7765	7640	17.6	12.5	7795	2.1	− 3.0
10354	1487	24.3	24.5	15.84	〃	77795	7828	7811	7644	18.4	16.7	7800	2.8	1.1
10356	1488	26.1	23.0	18.15	〃	78677	7924	7903	7670	25.4	23.3	7825	9.9	7.8
10357	1489	26.7	22.1	21.52	〃	79243	7991	7967	7678	31.3	28.9	7834	15.7	13.3
10359	1490	28.5	20.8	52.81	〃	79661	8129	8070	7704	42.5	36.6	7859	27.0	21.1
10361	1491	31.0	20.5	83.50	〃	79549	8213	8119	7740	47.3	37.9	7895	31.8	22.4
10363	1492	32.1	20.0	52.66	〃	80391	8202	8143	7755	44.7	38.8	7910	29.2	23.3
10364	1493	32.7	20.0	59.56	〃	80060	8190	8123	7764	42.6	35.9	7919	27.1	20.4
10366	1494	34.4	20.7	126.57	〃	77450	8136	7994	7788	34.8	20.6	7943	19.3	5.1

10367	1495	35.7	20.6	139.91	〃	76974	8129	7973	7807	32.2	16.6	7962	16.7	1.1
〃	4632	〃	〃	〃	1953 X 15	76976	8129	7973	〃	32.2	16.6	〃	16.7	1.1

Synoptic Results for Kanagawa Prefecture (IV).

B.M.	No.	φ	λ	H	Date	g	g_0	g_0''	HELMERT Formula of 1901			International Formula		
				(m)	1952	979.	979.	979.	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)	γ_0 979.	Δg_0 (mgal.)	$\Delta g_0''$ (mgal.)
		35° ′	139° ′											
$110._4$	1498	37.1	12.5	195.72	III 5	78509	8455	8236	7826	62.9	41.0	7981	47.4	25.5
$110._1$	1499	36.8	10.4	181.05	〃	77983	8357	8154	7822	53.5	33.2	7977	38.0	17.7
$105._9$	1500	36.9	08.7	217.62	〃	77009	8373	8129	7824	54.9	30.5	7979	39.4	15.0

ウォルドン重力計による日本全国の重力測定

第八報 (関東地方)

坪井忠二・実川 顕・田島広一

これは，関東地方 366 点における重力測定結果をまとめたものである．測定と計算との方法は，第1報に述べてあるのとほとんど同じであるから，ここにはくりかえさない．結果は第 III表～第 IX 表 (ルート別)，第 X 表～第 XVI 表 (県別) に示してある．ブーゲー異常の分布は，第 3 図にくわしく示してある．第 4 図はその略図である．

これらの図からわかる主なことがらは，次のとおりである．

1) 関東地方は，地形からみると，だいたい平地であるが，ブーゲー異常の分布は非常に複雑である．最高は茨城県北部の太平洋岸にみられる +160 mgals., 最低は東京の南西 25 km のところにみられる −30 magls. である．東京から北東にむいて，ブーゲー異常は急に増していて，その割合は 35 Eötvös にも及ぶ．これを説明するためには，著るしく異常な地下構造を考えなくてはならない．

2) 関東地方の北東部では，ブーゲー異常は決定的に高い．+50 mgals. の線は L 字型をして北南から西東に方向をかえている．(第 5 図)．ab は盛岡，白河線の続きである．この辺りは若い地層におおわれているから，地下の不連続構造 abc を示すような直接の地質学的証拠はないと思われる．筑波山地は，この abc 線に抱かれている形になつているが，この山地を作つている岩体の表面は，第 6 図のように，ある深さで，南，西にむかつて急に傾き落ちているにちがいない．この急傾斜のまうえが abc 線にあたるのだと思われる．

3) 第 5 図の ef 線 (100 mgals. の線の一部) のところでも，ブーゲー異常は急に変化していて，地下に何か異常な構造が存在することを示している．しかし，それに対する地質学的の証拠はないようである．

4) 東京の南西方に，ブーゲー異常がマイナスの地域があつて，東西にのびた楕円形をしている．これは明らかに地殻の陥没を示している．この場所が地震の頻発地域と一致していることは興味深い．

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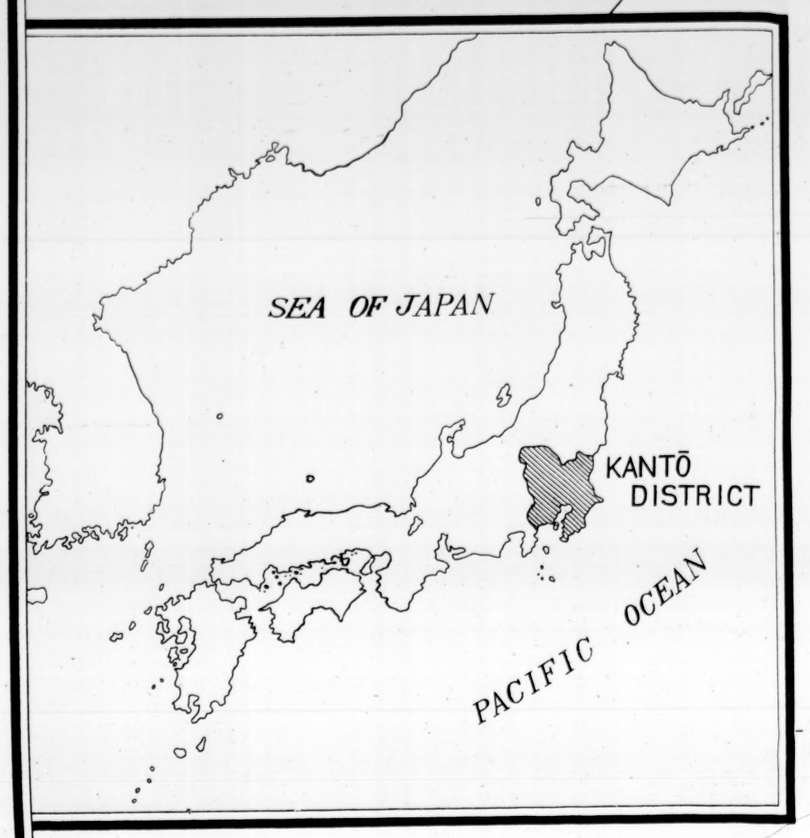
東京大學構内
編纂發行者 東京大學地震研究所

BOUGUER ANOMALIES IN THE KANTŌ DISTRICT BASED ON THE INTERNATIONAL FORMULA



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36°

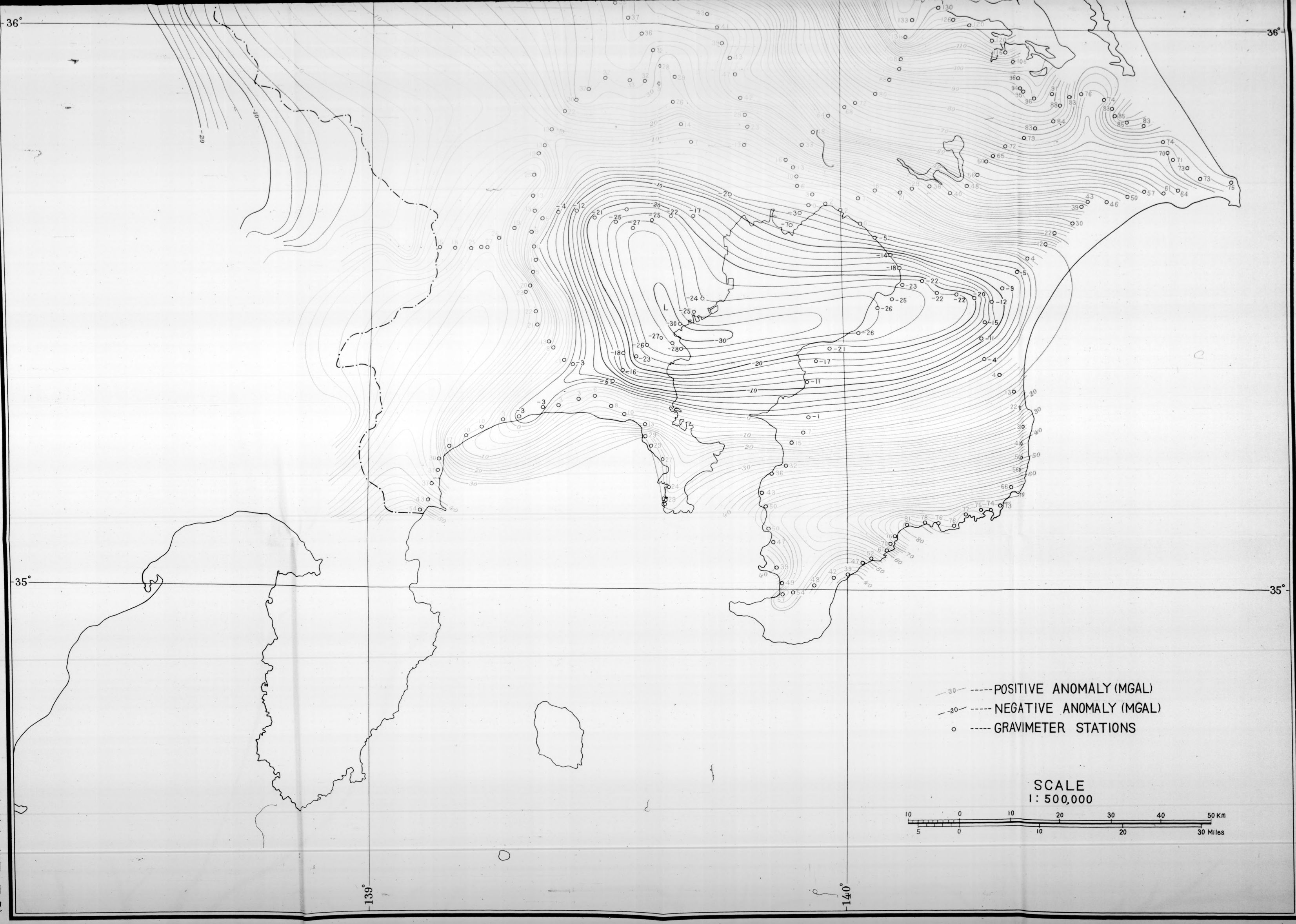

Fig 3. Bouguer Anomalies in the Kantō District based on the International Formula. (mgal.)

ウォルドン重力計による日本全国の重力測定

第八報 (関東地方)

坪井忠二・実川 顕・田島広一

これは，関東地方 366 点における重力測定結果をまとめたものである．測定と計算との方法は，第1報に述べてあるのとほとんど同じであるから，ここにはくりかえさない．結果は第 III表～第 IX 表 (ルート別)，第 X 表～第 XVI 表 (県別) に示してある．ブーゲー異常の分布は，第 3 図にくわしく示してある．第 4 図はその略図である．

これらの図からわかる主なことがらは，次のとおりである．

1) 関東地方は，地形からみると，だいたい平地であるが，ブーゲー異常の分布は非常に複雑で

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